

APPENDIX 1

MATERIAL COMPOSITION

The product material composition is illustrated in the table below. The material weight is given in grams and in percentage on total product weight.

Table 1: Material composition

Material	Weight (g)	Weight-%
Aluminium	6023.0	71.21
Copper	12.51	0.15
Other Plastics	1814.56	21.45
Paint	186.0	2.2
PCB Alu	27.9	0.33
PCB Copper	32.34	0.38
PCB Iron	30.24	0.36
PCB Non-ferrous metal	0.01	0.0
PCB Support	118.51	1.4
PCB Tin	2.11	0.02
PP / PS-High Impact PS / ABS	36.0	0.43
Stainless Steel	2.0	0.02



Steel	171.99	2.03
Tin	1.35	0.02

APPENDIX 2

USE PHASE (B6) VALUES FOR DIFFERENT COUNTRY MIX

In this EPD the B6 impact has been calculated using the energy mix of EU. The table in this appendix is useful for conversion and comparison of B6 values with other energy country mix. The Global Warming Potential Total (GWP tot) value is illustrated for each country. The value refers to 1 kwh.

Example on how to use the table:

If for example this EPD was done according to EU energy mix and you want to see how the GWP total changes according to a Finland country energy mix, you can take the original value in the results table here highlighted in yellow:

ENVIRONMENTAL IMPACT DATA, RESULTS PER DECLARED UNIT

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	4.44E-01	4.75E-03	2.34E-02	4.72E-01	9.50E-04	8.13E-03	ND	ND	ND	ND	ND	4.06E-02	ND	0.00E+00	5.50E-04	2.23E-03	7.33E-04	-2.82E-02

Divide that value according to the EU value from the following table (EU = 3.30E-01) and then multiplying for the Finland value from the same table (FINLAND = 1.54E-01).

Thus, the calculation of this example would be:

New B6 GWP tot for Finland = $(4.06E-02 / 3.30E-01) \times 1.54E-01 = 1.89E-02$.

Country	GWP tot (kg CO2 eq. per kwh)		
AFRICA	7.30E-01	GERMANY	3.90E-01
APAC	9.50E-01	INDIA	1.50E+00
AUSTRALIA	8.40E-01	ITALY	3.50E-01
AUSTRIA	2.30E-01	LATAM	3.90E-01
BELGIUM	2.00E-01	NAM	4.50E-01
CHINA	1.02E+00	NETHERLANDS	3.90E-01
DENMARK	1.60E-01	NORWAY	4.50E-02
EU	3.30E-01	ROW	7.30E-01
FINLAND	1.54E-01	SPAIN	2.10E-01
FRANCE	8.70E-02	SWEDEN	3.70E-02
		UK	2.60E-01

Source Ecoinvent 3.10.1

APPENDIX 3 - EPD HUB ALIGNED

This section represents the scaling method for the **B6 module**, following the PEP EcoPassport PSR for luminaires (PSR-0014-ed2.0-EN-2023 07 13). The GWP results were scaled from a reference variant of a product family, based on various light management scenarios and power inputs of the luminaires within the same product family.

To calculate the Scaled Impact (*SI*), we have followed the below methods:

1. Calculate the power scaling factor (PSF), which is the ratio of the power input of the variant in questions P_{in} and the power input of the base variant P_{base} .

$$PSF = \frac{P_{in}}{P_{base}}$$

2. Calculate the Total Scaling factor by multiplying the PSF by the control scaling factor (CSF), where the CSF is determined according the relevant control factor scenario (e.g. if the luminaire has a presence detection system). The presented controls factors values in Table A1 are based on BS EN 15193-1:2017. Please refer to this publication or contact Signify directly for more information.

$$TSF = PSF * CSF$$

Table 1: Light management function (PEP EcoPassport aligned)

Scenario	Abbrev.	CSF
No control	NC	1
Daylight dependency factor	DD	0.75
Presence sensing	PS	0.75
Daylight dependency and presence sensing	DD+PS	0.55

3. Lastly, the GWP of the base variant is then scaled by the TSF.

$$\text{Scaled Impact} = \text{GWP}_{\text{case}} * \text{TSF}$$

The following list of product configurations is not exhaustive. Please use the formula defined in point 1 above to calculate the exact power scaling factor (PSF) for any specific configuration.

Table 2: GWP per scaling factor (EPD Hub aligned)

	12NC or Product Family Code	Description	Flux [lm]	Power [W]	Efficacy [lm/W]	PSF	Total Scaling Factor (TSF)				Scaled Impacts (GWP100 B6 - kg CO2eq.)			
							NC	DD	PS	DD+PS	NC	DD	PS	DD+PS
1	BDP271	BDP271LED8-4S740DM10 DR	640	5.6	114.3	0.156	0.156	0.117	0.117	0.086	184.8	138.6	138.6	101.9
2	BDP271	BDP271LED10-4S740DM10 DR	800	6.8	117.6	0.189	0.189	0.142	0.142	0.104	223.9	168.2	168.2	123.2
3	BDP271	BDP271LED12-4S740DM10 DR	960	7.7	124.7	0.214	0.214	0.161	0.161	0.118	253.5	190.7	190.7	139.8
4	BDP271	BDP271LED14-4S740DM10 DR	1120	8.9	125.8	0.247	0.247	0.185	0.185	0.136	292.5	219.1	219.1	161.1
5	BDP271	BDP271LED16-4S740DM10 DR	1280	10.0	128.0	0.278	0.278	0.209	0.209	0.153	329.3	247.5	247.5	181.2
6	BDP271	BDP271LED18-4S740DM10 DR	1440	11.2	128.6	0.311	0.311	0.233	0.233	0.171	368.3	276.0	276.0	202.5
7	BDP271	BDP271LED20-4S740DM10 DR	1600	12.4	129.0	0.344	0.344	0.258	0.258	0.189	407.4	305.6	305.6	223.9
8	BDP271	BDP271LED22-4S740DM10 DR	1760	13.6	129.4	0.378	0.378	0.283	0.283	0.208	447.7	335.2	335.2	246.4
9	BDP271	BDP271LED24-4S740DM10 DR	1920	15.0	128.0	0.417	0.417	0.313	0.313	0.229	493.9	370.7	370.7	271.2
10	BDP271	BDP271LED27-4S740DM10 DR	2160	17.0	127.1	0.472	0.472	0.354	0.354	0.26	559.0	419.3	419.3	307.9

11	BDP271	BDP271LED30-4S740DM10 DR	2400	19.0	126.3	0.528	0.528	0.396	0.396	0.29	625.4	469.0	469.0	343.5
12	BDP271	BDP271LED34-4S740DM10 DR	2720	20.0	136.0	0.556	0.556	0.417	0.417	0.306	658.5	493.9	493.9	362.4
13	BDP271	BDP271LED35-4S740DM10 DR	2800	20.5	136.6	0.569	0.569	0.427	0.427	0.313	673.9	505.7	505.7	370.7
14	BDP271	BDP271LED39-4S740DM10 DR	3120	23.0	135.7	0.639	0.639	0.479	0.479	0.351	756.8	567.3	567.3	415.7
15	BDP271	BDP271LED40-4S740DM10 DR	3200	23.5	136.2	0.653	0.653	0.49	0.49	0.359	773.4	580.4	580.4	425.2
16	BDP271	BDP271LED44-4S740DM10 DR	3520	26.0	135.4	0.722	0.722	0.541	0.541	0.397	855.1	640.8	640.8	470.2
17	BDP271	BDP271LED45-4S740DM10 DR	3600	27.0	133.3	0.75	0.75	0.562	0.562	0.413	888.3	665.6	665.6	489.2
18	BDP271	BDP271LED50-4S740DM10 DR	4000	28.5	140.4	0.792	0.792	0.594	0.594	0.436	938.0	703.5	703.5	516.4
19	BDP271	BDP271LED55-4S740DM10 DR	4480	31.5	142.2	0.875	0.875	0.656	0.656	0.481	1036.4	777.0	777.0	569.7
20	BDP271	BDP271LED59-4S740DM10 DR	4800	33.5	143.3	0.931	0.931	0.698	0.698	0.512	1102.7	826.7	826.7	606.4
21	BDP271	BDP271LED64-4S740DM10 DR	5056	37.0	136.6	1.028	1.028	0.771	0.771	0.565	1217.6	913.2	913.2	669.2
22	BDP271	BDP271LED69-4S740DM10 DR	5530	40.0	138.2	1.111	1.111	0.833	0.833	0.611	1315.9	986.6	986.6	723.7
23	BDP271	BDP271LED74-4S740DM10 DR	5846	43.0	136.0	1.194	1.194	0.895	0.895	0.657	1414.2	1060.0	1060.0	778.2
24	BDP271	BDP271LED79-4S740DM10 DR	6162	44.5	138.5	1.236	1.236	0.927	0.927	0.68	1463.9	1097.9	1097.9	805.4

25	BDP271	BDP271LED84-4S740DM10 DR	6636	47.5	139.7	1.319	1.319	0.989	0.989	0.725	1562.2	1171.4	1171.4	858.7
26	BDP271	BDP271LED90-4S740DM10 DR	7110	51.0	139.4	1.417	1.417	1.063	1.063	0.779	1678.3	1259.0	1259.0	922.6
27	BDP271	BDP271LED94-4S740DM10 DR	7426	54.0	137.5	1.5	1.5	1.125	1.125	0.825	1776.6	1332.5	1332.5	977.1
28	BDP271	BDP271LED109-4S740DM10 DR	8580	63.0	136.2	1.75	1.75	1.312	1.312	0.963	2072.7	1553.9	1553.9	1140.6
29	BDP271	BDP271LED120-4S740DM10 DR	9360	71.0	131.8	1.972	1.972	1.479	1.479	1.085	2335.6	1751.7	1751.7	1285.1
30	BDP271	BDP271LED130-4S740DM10 DR	10010	77.0	130.0	2.139	2.139	1.604	1.604	1.176	2533.4	1899.8	1899.8	1392.9
31	BDP271	BDP271LED8-4S730DM10 DR	640	5.9	108.5	0.164	0.164	0.123	0.123	0.09	194.2	145.7	145.7	106.6
32	BDP271	BDP271LED10-4S730DM10 DR	800	7.1	112.7	0.197	0.197	0.148	0.148	0.108	233.3	175.3	175.3	127.9
33	BDP271	BDP271LED12-4S730DM10 DR	960	8.2	117.1	0.228	0.228	0.171	0.171	0.125	270.0	202.5	202.5	148.1
34	BDP271	BDP271LED14-4S730DM10 DR	1120	9.4	119.1	0.261	0.261	0.196	0.196	0.144	309.1	232.1	232.1	170.6
35	BDP271	BDP271LED16-4S730DM10 DR	1280	10.6	120.8	0.294	0.294	0.22	0.22	0.162	348.2	260.6	260.6	191.9
36	BDP271	BDP271LED18-4S730DM10 DR	1440	11.8	122.0	0.328	0.328	0.246	0.246	0.18	388.5	291.4	291.4	213.2
37	BDP271	BDP271LED20-4S730DM10 DR	1600	13.2	121.2	0.367	0.367	0.275	0.275	0.202	434.7	325.7	325.7	239.2
38	BDP271	BDP271LED22-4S730DM10 DR	1760	14.6	120.5	0.406	0.406	0.304	0.304	0.223	480.9	360.1	360.1	264.1

39	BDP271	BDP271LED24-4S730DM10 DR	1920	16.0	120.0	0.444	0.444	0.333	0.333	0.244	525.9	394.4	394.4	289.0
40	BDP271	BDP271LED27-4S730DM10 DR	2160	18.0	120.0	0.5	0.5	0.375	0.375	0.275	592.2	444.2	444.2	325.7
41	BDP271	BDP271LED30-4S730DM10 DR	2400	20.5	117.1	0.569	0.569	0.427	0.427	0.313	673.9	505.7	505.7	370.7
42	BDP271	BDP271LED34-4S730DM10 DR	2720	21.0	129.5	0.583	0.583	0.437	0.437	0.321	690.5	517.6	517.6	380.2
43	BDP271	BDP271LED35-4S730DM10 DR	2800	22.0	127.3	0.611	0.611	0.458	0.458	0.336	723.7	542.5	542.5	398.0
44	BDP271	BDP271LED39-4S730DM10 DR	3120	24.5	127.3	0.681	0.681	0.511	0.511	0.375	806.6	605.2	605.2	444.2
45	BDP271	BDP271LED40-4S730DM10 DR	3200	25.0	128.0	0.694	0.694	0.52	0.52	0.382	822.0	615.9	615.9	452.4
46	BDP271	BDP271LED44-4S730DM10 DR	3520	28.0	125.7	0.778	0.778	0.584	0.584	0.428	921.5	691.7	691.7	506.9
47	BDP271	BDP271LED45-4S730DM10 DR	3600	28.5	126.3	0.792	0.792	0.594	0.594	0.436	938.0	703.5	703.5	516.4
48	BDP271	BDP271LED50-4S730DM10 DR	4000	30.0	133.3	0.833	0.833	0.625	0.625	0.458	986.6	740.2	740.2	542.5
49	BDP271	BDP271LED55-4S730DM10 DR	4480	33.5	133.7	0.931	0.931	0.698	0.698	0.512	1102.7	826.7	826.7	606.4
50	BDP271	BDP271LED59-4S730DM10 DR	4800	36.0	133.3	1.0	1.0	0.75	0.75	0.55	1184.4	888.3	888.3	651.4
51	BDP271	BDP271LED64-4S730DM10 DR	5056	39.0	129.6	1.083	1.083	0.812	0.812	0.596	1282.7	961.7	961.7	705.9
52	BDP271	BDP271LED69-4S730DM10 DR	5530	42.5	130.1	1.181	1.181	0.886	0.886	0.65	1398.8	1049.4	1049.4	769.9

53	BDP271	BDP271LED74-4S730DM10 DR	5846	46.0	127.1	1.278	1.278	0.959	0.959	0.703	1513.7	1135.8	1135.8	832.6
54	BDP271	BDP271LED79-4S730DM10 DR	6320	47.5	133.1	1.319	1.319	0.989	0.989	0.725	1562.2	1171.4	1171.4	858.7
55	BDP271	BDP271LED84-4S730DM10 DR	6636	51.0	130.1	1.417	1.417	1.063	1.063	0.779	1678.3	1259.0	1259.0	922.6
56	BDP271	BDP271LED90-4S730DM10 DR	7110	55.0	129.3	1.528	1.528	1.146	1.146	0.84	1809.8	1357.3	1357.3	994.9
57	BDP271	BDP271LED94-4S730DM10 DR	7426	57.0	130.3	1.583	1.583	1.187	1.187	0.871	1874.9	1405.9	1405.9	1031.6
58	BDP271	BDP271LED109-4S730DM10 DR	8580	68.0	126.2	1.889	1.889	1.417	1.417	1.039	2237.3	1678.3	1678.3	1230.6
59	BDP271	BDP271LED120-4S730DM10 DR	9240	76.0	121.6	2.111	2.111	1.583	1.583	1.161	2500.3	1874.9	1874.9	1375.1
60	BDP271	BDP271LED6-4S830DM10 DR	480	5.0	96.0	0.139	0.139	0.104	0.104	0.076	164.6	123.2	123.2	90.0
61	BDP271	BDP271LED8-4S830DM10 DR	640	6.5	98.5	0.181	0.181	0.136	0.136	0.1	214.4	161.1	161.1	118.4
62	BDP271	BDP271LED10-4S830DM10 DR	800	7.9	101.3	0.219	0.219	0.164	0.164	0.12	259.4	194.2	194.2	142.1
63	BDP271	BDP271LED12-4S830DM10 DR	960	9.1	105.5	0.253	0.253	0.19	0.19	0.139	299.7	225.0	225.0	164.6
64	BDP271	BDP271LED14-4S830DM10 DR	1120	10.4	107.7	0.289	0.289	0.217	0.217	0.159	342.3	257.0	257.0	188.3
65	BDP271	BDP271LED16-4S830DM10 DR	1280	11.8	108.5	0.328	0.328	0.246	0.246	0.18	388.5	291.4	291.4	213.2
66	BDP271	BDP271LED18-4S830DM10 DR	1440	13.2	109.1	0.367	0.367	0.275	0.275	0.202	434.7	325.7	325.7	239.2

67	BDP271	BDP271LED20-4S830DM10 DR	1600	14.8	108.1	0.411	0.411	0.308	0.308	0.226	486.8	364.8	364.8	267.7
68	BDP271	BDP271LED22-4S830DM10 DR	1760	16.4	107.3	0.456	0.456	0.342	0.342	0.251	540.1	405.1	405.1	297.3
69	BDP271	BDP271LED24-4S830DM10 DR	1920	18.0	106.7	0.5	0.5	0.375	0.375	0.275	592.2	444.2	444.2	325.7
70	BDP271	BDP271LED27-4S830DM10 DR	2160	19.0	113.7	0.528	0.528	0.396	0.396	0.29	625.4	469.0	469.0	343.5
71	BDP271	BDP271LED30-4S830DM10 DR	2400	21.0	114.3	0.583	0.583	0.437	0.437	0.321	690.5	517.6	517.6	380.2
72	BDP271	BDP271LED34-4S830DM10 DR	2720	24.0	113.3	0.667	0.667	0.5	0.5	0.367	790.0	592.2	592.2	434.7
73	BDP271	BDP271LED35-4S830DM10 DR	2800	24.5	114.3	0.681	0.681	0.511	0.511	0.375	806.6	605.2	605.2	444.2
74	BDP271	BDP271LED39-4S830DM10 DR	3120	27.5	113.5	0.764	0.764	0.573	0.573	0.42	904.9	678.7	678.7	497.4
75	BDP271	BDP271LED40-4S830DM10 DR	3200	28.5	112.3	0.792	0.792	0.594	0.594	0.436	938.0	703.5	703.5	516.4
76	BDP271	BDP271LED44-4S830DM10 DR	3476	31.5	110.3	0.875	0.875	0.656	0.656	0.481	1036.4	777.0	777.0	569.7
77	BDP271	BDP271LED45-4S830DM10 DR	3555	32.0	111.1	0.889	0.889	0.667	0.667	0.489	1052.9	790.0	790.0	579.2
78	BDP271	BDP271LED50-4S830DM10 DR	3950	36.0	109.7	1.0	1.0	0.75	0.75	0.55	1184.4	888.3	888.3	651.4
79	BDP271	BDP271LED55-4S830DM10 DR	4424	37.5	118.0	1.042	1.042	0.782	0.782	0.573	1234.1	926.2	926.2	678.7
80	BDP271	BDP271LED59-4S830DM10 DR	4740	40.5	117.0	1.125	1.125	0.844	0.844	0.619	1332.5	999.6	999.6	733.1

81	BDP271	BDP271LED64-4S830DM10 DR	5056	44.5	113.6	1.236	1.236	0.927	0.927	0.68	1463.9	1097.9	1097.9	805.4
82	BDP271	BDP271LED69-4S830DM10 DR	5460	48.0	113.8	1.333	1.333	1.0	1.0	0.733	1578.8	1184.4	1184.4	868.2
83	BDP271	BDP271LED74-4S830DM10 DR	5772	52.0	111.0	1.444	1.444	1.083	1.083	0.794	1710.3	1282.7	1282.7	940.4
84	BDP271	BDP271LED79-4S830DM10 DR	6320	54.0	117.0	1.5	1.5	1.125	1.125	0.825	1776.6	1332.5	1332.5	977.1
85	BDP271	BDP271LED84-4S830DM10 DR	6636	57.0	116.4	1.583	1.583	1.187	1.187	0.871	1874.9	1405.9	1405.9	1031.6
86	BDP271	BDP271LED90-4S830DM10 DR	7020	62.0	113.2	1.722	1.722	1.292	1.292	0.947	2039.5	1530.2	1530.2	1121.6
87	BDP271	BDP271LED94-4S830DM10 DR	7332	65.0	112.8	1.806	1.806	1.355	1.355	0.993	2139.0	1604.9	1604.9	1176.1
88	BDP271	BDP271LED109-4S830DM10 DR	8470	77.0	110.0	2.139	2.139	1.604	1.604	1.176	2533.4	1899.8	1899.8	1392.9
89	BDP271	BDP271LED8-4S722DM10 DR	640	7.1	90.1	0.197	0.197	0.148	0.148	0.108	233.3	175.3	175.3	127.9
90	BDP271	BDP271LED10-4S722DM10 DR	800	8.8	90.9	0.244	0.244	0.183	0.183	0.134	289.0	216.7	216.7	158.7
91	BDP271	BDP271LED12-4S722DM10 DR	960	10.0	96.0	0.278	0.278	0.209	0.209	0.153	329.3	247.5	247.5	181.2
92	BDP271	BDP271LED14-4S722DM10 DR	1120	11.6	96.6	0.322	0.322	0.241	0.241	0.177	381.4	285.4	285.4	209.6
93	BDP271	BDP271LED16-4S722DM10 DR	1280	13.2	97.0	0.367	0.367	0.275	0.275	0.202	434.7	325.7	325.7	239.2
94	BDP271	BDP271LED18-4S722DM10 DR	1440	14.8	97.3	0.411	0.411	0.308	0.308	0.226	486.8	364.8	364.8	267.7

95	BDP271	BDP271LED20-4S722DM10 DR	1600	16.6	96.4	0.461	0.461	0.346	0.346	0.254	546.0	409.8	409.8	300.8
96	BDP271	BDP271LED22-4S722DM10 DR	1760	18.4	95.7	0.511	0.511	0.383	0.383	0.281	605.2	453.6	453.6	332.8
97	BDP271	BDP271LED24-4S722DM10 DR	1920	20.5	93.7	0.569	0.569	0.427	0.427	0.313	673.9	505.7	505.7	370.7
98	BDP271	BDP271LED27-4S722DM10 DR	2160	21.0	102.9	0.583	0.583	0.437	0.437	0.321	690.5	517.6	517.6	380.2
99	BDP271	BDP271LED30-4S722DM10 DR	2400	23.5	102.1	0.653	0.653	0.49	0.49	0.359	773.4	580.4	580.4	425.2
100	BDP271	BDP271LED34-4S722DM10 DR	2720	27.0	100.7	0.75	0.75	0.562	0.562	0.413	888.3	665.6	665.6	489.2

PEP ECOPASSPORT ALIGNED

This section represents the scaling method for the **B6 module**, following the PEP EcoPassport PSR for luminaries (PSR-0014-ed2.0-EN-2023 07 13). The GWP results were scaled from a reference variant of a product family, based on various light management functions, the lumen output (O_{lum}) and reference service life (RSL) of each product within the same product family.

To calculate the Scaled Impact (SI_{pep}), we have followed the below methods:

1. Calculate the power scaling factor (PSF), which is the ratio of the power input of the variant in questions P_{in} and the power input of the base variant P_{base} .

$$PSF = \frac{P_{in}}{P_{base}}$$

2. Using this scaled GWP, we then can apply the PEP Ecopassport method for calculating the environmental impact of the functional unit for a luminary (1000 lumens over 35000 hours), applied to B6, where the Functional Unit application considers the lumen output (O_{lum}) and reference service lifetime (RSL) of the product to estimate the final environmental impact. The scaled impact (SI_{pep}) is presented in Table A4.

$$GSF = \frac{FU_{pep}}{FU_p} = \frac{1,000}{O_{lum}} * \frac{35,000}{RSL}$$

3. Calculate the GWP scaling factor ($PGSF$), by multiplying the PSF by the GSF.

$$PGSF = PSF * GSF$$

- Calculate the Total Scaling factor by multiplying the PSF by the control scaling factor (CSF), where the CSF is determined according the relevant control factor scenario (e.g. if the luminaire has a presence detection system), as presented in Table A1.

$$TSF = PGSF * CSF$$

Table 3: Light management functions (PEP EcoPassport aligned)

Scenario	Abbrev.	CSF
No control	NC	1
Daylight dependency factor	DD	0.75
Presence sensing	PS	0.75
Daylight dependency and presence sensing	DD+PS	0.55

- Lastly, the GWP of the base variant is then scaled by the TSF.

$$Scaled\ GWP = GWP_{case} * TSF$$

Table 4: Impact per scaling factor (PEP EcoPassport aligned)

	12NC or Product Family Code	Description	Flux [lm]	Power [W]	Efficacy [lm/W]	PSF	Total Scaling Factor (TSF)				Scaled Impacts (GWP100 B6 - kg CO2eq.)			
							NC	DD	PS	DD+PS	NC	DD	PS	DD+PS
1	BDP271	BDP271LED8-4S740DM10 DR	640	5.6	114.3	0.156	0.085	0.064	0.064	0.047	100.7	75.8	75.8	55.7
2	BDP271	BDP271LED10-4S740DM10 DR	800	6.8	117.6	0.189	0.083	0.062	0.062	0.046	98.3	73.4	73.4	54.5
3	BDP271	BDP271LED12-4S740DM10 DR	960	7.7	124.7	0.214	0.078	0.058	0.058	0.043	92.4	68.7	68.7	50.9
4	BDP271	BDP271LED14-4S740DM10 DR	1120	8.9	125.8	0.247	0.077	0.058	0.058	0.042	91.2	68.7	68.7	49.7
5	BDP271	BDP271LED16-4S740DM10 DR	1280	10.0	128.0	0.278	0.076	0.057	0.057	0.042	90.0	67.5	67.5	49.7
6	BDP271	BDP271LED18-4S740DM10 DR	1440	11.2	128.6	0.311	0.076	0.057	0.057	0.042	90.0	67.5	67.5	49.7
7	BDP271	BDP271LED20-4S740DM10 DR	1600	12.4	129.0	0.344	0.075	0.056	0.056	0.041	88.8	66.3	66.3	48.6
8	BDP271	BDP271LED22-4S740DM10 DR	1760	13.6	129.4	0.378	0.075	0.056	0.056	0.041	88.8	66.3	66.3	48.6
9	BDP271	BDP271LED24-4S740DM10 DR	1920	15.0	128.0	0.417	0.076	0.057	0.057	0.042	90.0	67.5	67.5	49.7
10	BDP271	BDP271LED27-4S740DM10 DR	2160	17.0	127.1	0.472	0.076	0.057	0.057	0.042	90.0	67.5	67.5	49.7
11	BDP271	BDP271LED30-4S740DM10 DR	2400	19.0	126.3	0.528	0.077	0.058	0.058	0.042	91.2	68.7	68.7	49.7
12	BDP271	BDP271LED34-4S740DM10 DR	2720	20.0	136.0	0.556	0.072	0.054	0.054	0.04	85.3	64.0	64.0	47.4

13	BDP271	BDP271LED35-4S740DM10 DR	2800	20.5	136.6	0.569	0.071	0.053	0.053	0.039	84.1	62.8	62.8	46.2
14	BDP271	BDP271LED39-4S740DM10 DR	3120	23.0	135.7	0.639	0.072	0.054	0.054	0.04	85.3	64.0	64.0	47.4
15	BDP271	BDP271LED40-4S740DM10 DR	3200	23.5	136.2	0.653	0.071	0.053	0.053	0.039	84.1	62.8	62.8	46.2
16	BDP271	BDP271LED44-4S740DM10 DR	3520	26.0	135.4	0.722	0.071	0.053	0.053	0.039	84.1	62.8	62.8	46.2
17	BDP271	BDP271LED45-4S740DM10 DR	3600	27.0	133.3	0.75	0.073	0.055	0.055	0.04	86.5	65.1	65.1	47.4
18	BDP271	BDP271LED50-4S740DM10 DR	4000	28.5	140.4	0.792	0.069	0.052	0.052	0.038	81.7	61.6	61.6	45.0
19	BDP271	BDP271LED55-4S740DM10 DR	4480	31.5	142.2	0.875	0.068	0.051	0.051	0.037	80.5	60.4	60.4	43.8
20	BDP271	BDP271LED59-4S740DM10 DR	4800	33.5	143.3	0.931	0.068	0.051	0.051	0.037	80.5	60.4	60.4	43.8
21	BDP271	BDP271LED64-4S740DM10 DR	5056	37.0	136.6	1.028	0.071	0.053	0.053	0.039	84.1	62.8	62.8	46.2
22	BDP271	BDP271LED69-4S740DM10 DR	5530	40.0	138.2	1.111	0.07	0.053	0.053	0.039	82.9	62.8	62.8	46.2
23	BDP271	BDP271LED74-4S740DM10 DR	5846	43.0	136.0	1.194	0.072	0.054	0.054	0.04	85.3	64.0	64.0	47.4
24	BDP271	BDP271LED79-4S740DM10 DR	6162	44.5	138.5	1.236	0.07	0.053	0.053	0.039	82.9	62.8	62.8	46.2
25	BDP271	BDP271LED84-4S740DM10 DR	6636	47.5	139.7	1.319	0.07	0.053	0.053	0.039	82.9	62.8	62.8	46.2
26	BDP271	BDP271LED90-4S740DM10 DR	7110	51.0	139.4	1.417	0.069	0.052	0.052	0.038	81.7	61.6	61.6	45.0

27	BDP271	BDP271LED94-4S740DM10 DR	7426	54.0	137.5	1.5	0.071	0.053	0.053	0.039	84.1	62.8	62.8	46.2
28	BDP271	BDP271LED109-4S740DM10 DR	8580	63.0	136.2	1.75	0.072	0.054	0.054	0.04	85.3	64.0	64.0	47.4
29	BDP271	BDP271LED120-4S740DM10 DR	9360	71.0	131.8	1.972	0.073	0.055	0.055	0.04	86.5	65.1	65.1	47.4
30	BDP271	BDP271LED130-4S740DM10 DR	10010	77.0	130.0	2.139	0.075	0.056	0.056	0.041	88.8	66.3	66.3	48.6
31	BDP271	BDP271LED8-4S730DM10 DR	640	5.9	108.5	0.164	0.09	0.068	0.068	0.05	106.6	80.5	80.5	59.2
32	BDP271	BDP271LED10-4S730DM10 DR	800	7.1	112.7	0.197	0.086	0.065	0.065	0.047	101.9	77.0	77.0	55.7
33	BDP271	BDP271LED12-4S730DM10 DR	960	8.2	117.1	0.228	0.083	0.062	0.062	0.046	98.3	73.4	73.4	54.5
34	BDP271	BDP271LED14-4S730DM10 DR	1120	9.4	119.1	0.261	0.081	0.061	0.061	0.045	95.9	72.2	72.2	53.3
35	BDP271	BDP271LED16-4S730DM10 DR	1280	10.6	120.8	0.294	0.08	0.06	0.06	0.044	94.8	71.1	71.1	52.1
36	BDP271	BDP271LED18-4S730DM10 DR	1440	11.8	122.0	0.328	0.08	0.06	0.06	0.044	94.8	71.1	71.1	52.1
37	BDP271	BDP271LED20-4S730DM10 DR	1600	13.2	121.2	0.367	0.08	0.06	0.06	0.044	94.8	71.1	71.1	52.1
38	BDP271	BDP271LED22-4S730DM10 DR	1760	14.6	120.5	0.406	0.081	0.061	0.061	0.045	95.9	72.2	72.2	53.3
39	BDP271	BDP271LED24-4S730DM10 DR	1920	16.0	120.0	0.444	0.081	0.061	0.061	0.045	95.9	72.2	72.2	53.3
40	BDP271	BDP271LED27-4S730DM10 DR	2160	18.0	120.0	0.5	0.081	0.061	0.061	0.045	95.9	72.2	72.2	53.3

41	BDP271	BDP271LED30-4S730DM10 DR	2400	20.5	117.1	0.569	0.083	0.062	0.062	0.046	98.3	73.4	73.4	54.5
42	BDP271	BDP271LED34-4S730DM10 DR	2720	21.0	129.5	0.583	0.075	0.056	0.056	0.041	88.8	66.3	66.3	48.6
43	BDP271	BDP271LED35-4S730DM10 DR	2800	22.0	127.3	0.611	0.076	0.057	0.057	0.042	90.0	67.5	67.5	49.7
44	BDP271	BDP271LED39-4S730DM10 DR	3120	24.5	127.3	0.681	0.076	0.057	0.057	0.042	90.0	67.5	67.5	49.7
45	BDP271	BDP271LED40-4S730DM10 DR	3200	25.0	128.0	0.694	0.076	0.057	0.057	0.042	90.0	67.5	67.5	49.7
46	BDP271	BDP271LED44-4S730DM10 DR	3520	28.0	125.7	0.778	0.077	0.058	0.058	0.042	91.2	68.7	68.7	49.7
47	BDP271	BDP271LED45-4S730DM10 DR	3600	28.5	126.3	0.792	0.077	0.058	0.058	0.042	91.2	68.7	68.7	49.7
48	BDP271	BDP271LED50-4S730DM10 DR	4000	30.0	133.3	0.833	0.072	0.054	0.054	0.04	85.3	64.0	64.0	47.4
49	BDP271	BDP271LED55-4S730DM10 DR	4480	33.5	133.7	0.931	0.073	0.055	0.055	0.04	86.5	65.1	65.1	47.4
50	BDP271	BDP271LED59-4S730DM10 DR	4800	36.0	133.3	1.0	0.073	0.055	0.055	0.04	86.5	65.1	65.1	47.4
51	BDP271	BDP271LED64-4S730DM10 DR	5056	39.0	129.6	1.083	0.075	0.056	0.056	0.041	88.8	66.3	66.3	48.6
52	BDP271	BDP271LED69-4S730DM10 DR	5530	42.5	130.1	1.181	0.074	0.055	0.055	0.041	87.6	65.1	65.1	48.6
53	BDP271	BDP271LED74-4S730DM10 DR	5846	46.0	127.1	1.278	0.077	0.058	0.058	0.042	91.2	68.7	68.7	49.7
54	BDP271	BDP271LED79-4S730DM10 DR	6320	47.5	133.1	1.319	0.073	0.055	0.055	0.04	86.5	65.1	65.1	47.4

55	BDP271	BDP271LED84-4S730DM10 DR	6636	51.0	130.1	1.417	0.075	0.056	0.056	0.041	88.8	66.3	66.3	48.6
56	BDP271	BDP271LED90-4S730DM10 DR	7110	55.0	129.3	1.528	0.075	0.056	0.056	0.041	88.8	66.3	66.3	48.6
57	BDP271	BDP271LED94-4S730DM10 DR	7426	57.0	130.3	1.583	0.074	0.055	0.055	0.041	87.6	65.1	65.1	48.6
58	BDP271	BDP271LED109-4S730DM10 DR	8580	68.0	126.2	1.889	0.077	0.058	0.058	0.042	91.2	68.7	68.7	49.7
59	BDP271	BDP271LED120-4S730DM10 DR	9240	76.0	121.6	2.111	0.08	0.06	0.06	0.044	94.8	71.1	71.1	52.1
60	BDP271	BDP271LED6-4S830DM10 DR	480	5.0	96.0	0.139	0.101	0.076	0.076	0.056	119.6	90.0	90.0	66.3
61	BDP271	BDP271LED8-4S830DM10 DR	640	6.5	98.5	0.181	0.099	0.074	0.074	0.054	117.3	87.6	87.6	64.0
62	BDP271	BDP271LED10-4S830DM10 DR	800	7.9	101.3	0.219	0.096	0.072	0.072	0.053	113.7	85.3	85.3	62.8
63	BDP271	BDP271LED12-4S830DM10 DR	960	9.1	105.5	0.253	0.092	0.069	0.069	0.051	109.0	81.7	81.7	60.4
64	BDP271	BDP271LED14-4S830DM10 DR	1120	10.4	107.7	0.289	0.09	0.068	0.068	0.05	106.6	80.5	80.5	59.2
65	BDP271	BDP271LED16-4S830DM10 DR	1280	11.8	108.5	0.328	0.09	0.068	0.068	0.05	106.6	80.5	80.5	59.2
66	BDP271	BDP271LED18-4S830DM10 DR	1440	13.2	109.1	0.367	0.089	0.067	0.067	0.049	105.4	79.4	79.4	58.0
67	BDP271	BDP271LED20-4S830DM10 DR	1600	14.8	108.1	0.411	0.09	0.068	0.068	0.05	106.6	80.5	80.5	59.2
68	BDP271	BDP271LED22-4S830DM10 DR	1760	16.4	107.3	0.456	0.091	0.068	0.068	0.05	107.8	80.5	80.5	59.2

69	BDP271	BDP271LED24-4S830DM10 DR	1920	18.0	106.7	0.5	0.091	0.068	0.068	0.05	107.8	80.5	80.5	59.2
70	BDP271	BDP271LED27-4S830DM10 DR	2160	19.0	113.7	0.528	0.086	0.065	0.065	0.047	101.9	77.0	77.0	55.7
71	BDP271	BDP271LED30-4S830DM10 DR	2400	21.0	114.3	0.583	0.085	0.064	0.064	0.047	100.7	75.8	75.8	55.7
72	BDP271	BDP271LED34-4S830DM10 DR	2720	24.0	113.3	0.667	0.086	0.065	0.065	0.047	101.9	77.0	77.0	55.7
73	BDP271	BDP271LED35-4S830DM10 DR	2800	24.5	114.3	0.681	0.085	0.064	0.064	0.047	100.7	75.8	75.8	55.7
74	BDP271	BDP271LED39-4S830DM10 DR	3120	27.5	113.5	0.764	0.086	0.065	0.065	0.047	101.9	77.0	77.0	55.7
75	BDP271	BDP271LED40-4S830DM10 DR	3200	28.5	112.3	0.792	0.086	0.065	0.065	0.047	101.9	77.0	77.0	55.7
76	BDP271	BDP271LED44-4S830DM10 DR	3476	31.5	110.3	0.875	0.088	0.066	0.066	0.048	104.2	78.2	78.2	56.9
77	BDP271	BDP271LED45-4S830DM10 DR	3555	32.0	111.1	0.889	0.087	0.065	0.065	0.048	103.0	77.0	77.0	56.9
78	BDP271	BDP271LED50-4S830DM10 DR	3950	36.0	109.7	1.0	0.089	0.067	0.067	0.049	105.4	79.4	79.4	58.0
79	BDP271	BDP271LED55-4S830DM10 DR	4424	37.5	118.0	1.042	0.082	0.061	0.061	0.045	97.1	72.2	72.2	53.3
80	BDP271	BDP271LED59-4S830DM10 DR	4740	40.5	117.0	1.125	0.083	0.062	0.062	0.046	98.3	73.4	73.4	54.5
81	BDP271	BDP271LED64-4S830DM10 DR	5056	44.5	113.6	1.236	0.085	0.064	0.064	0.047	100.7	75.8	75.8	55.7
82	BDP271	BDP271LED69-4S830DM10 DR	5460	48.0	113.8	1.333	0.085	0.064	0.064	0.047	100.7	75.8	75.8	55.7

83	BDP271	BDP271LED74-4S830DM10 DR	5772	52.0	111.0	1.444	0.088	0.066	0.066	0.048	104.2	78.2	78.2	56.9
84	BDP271	BDP271LED79-4S830DM10 DR	6320	54.0	117.0	1.5	0.083	0.062	0.062	0.046	98.3	73.4	73.4	54.5
85	BDP271	BDP271LED84-4S830DM10 DR	6636	57.0	116.4	1.583	0.084	0.063	0.063	0.046	99.5	74.6	74.6	54.5
86	BDP271	BDP271LED90-4S830DM10 DR	7020	62.0	113.2	1.722	0.086	0.065	0.065	0.047	101.9	77.0	77.0	55.7
87	BDP271	BDP271LED94-4S830DM10 DR	7332	65.0	112.8	1.806	0.087	0.065	0.065	0.048	103.0	77.0	77.0	56.9
88	BDP271	BDP271LED109-4S830DM10 DR	8470	77.0	110.0	2.139	0.088	0.066	0.066	0.048	104.2	78.2	78.2	56.9
89	BDP271	BDP271LED8-4S722DM10 DR	640	7.1	90.1	0.197	0.108	0.081	0.081	0.059	127.9	95.9	95.9	69.9
90	BDP271	BDP271LED10-4S722DM10 DR	800	8.8	90.9	0.244	0.107	0.08	0.08	0.059	126.7	94.8	94.8	69.9
91	BDP271	BDP271LED12-4S722DM10 DR	960	10.0	96.0	0.278	0.101	0.076	0.076	0.056	119.6	90.0	90.0	66.3
92	BDP271	BDP271LED14-4S722DM10 DR	1120	11.6	96.6	0.322	0.1	0.075	0.075	0.055	118.4	88.8	88.8	65.1
93	BDP271	BDP271LED16-4S722DM10 DR	1280	13.2	97.0	0.367	0.1	0.075	0.075	0.055	118.4	88.8	88.8	65.1
94	BDP271	BDP271LED18-4S722DM10 DR	1440	14.8	97.3	0.411	0.1	0.075	0.075	0.055	118.4	88.8	88.8	65.1
95	BDP271	BDP271LED20-4S722DM10 DR	1600	16.6	96.4	0.461	0.101	0.076	0.076	0.056	119.6	90.0	90.0	66.3
96	BDP271	BDP271LED22-4S722DM10 DR	1760	18.4	95.7	0.511	0.102	0.076	0.076	0.056	120.8	90.0	90.0	66.3

97	BDP271	BDP271LED24-4S722DM10 DR	1920	20.5	93.7	0.569	0.104	0.078	0.078	0.057	123.2	92.4	92.4	67.5
98	BDP271	BDP271LED27-4S722DM10 DR	2160	21.0	102.9	0.583	0.094	0.071	0.071	0.052	111.3	84.1	84.1	61.6
99	BDP271	BDP271LED30-4S722DM10 DR	2400	23.5	102.1	0.653	0.095	0.071	0.071	0.052	112.5	84.1	84.1	61.6
100	BDP271	BDP271LED34-4S722DM10 DR	2720	27.0	100.7	0.75	0.097	0.073	0.073	0.053	114.9	86.5	86.5	62.8