

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P912629

Luminaire Tested: DFN2DIP-TR3F0-060D040US850-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P912629
REPORT IS A COMBINATION OF REPORTS P901812 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-060D040US850-RLLONL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

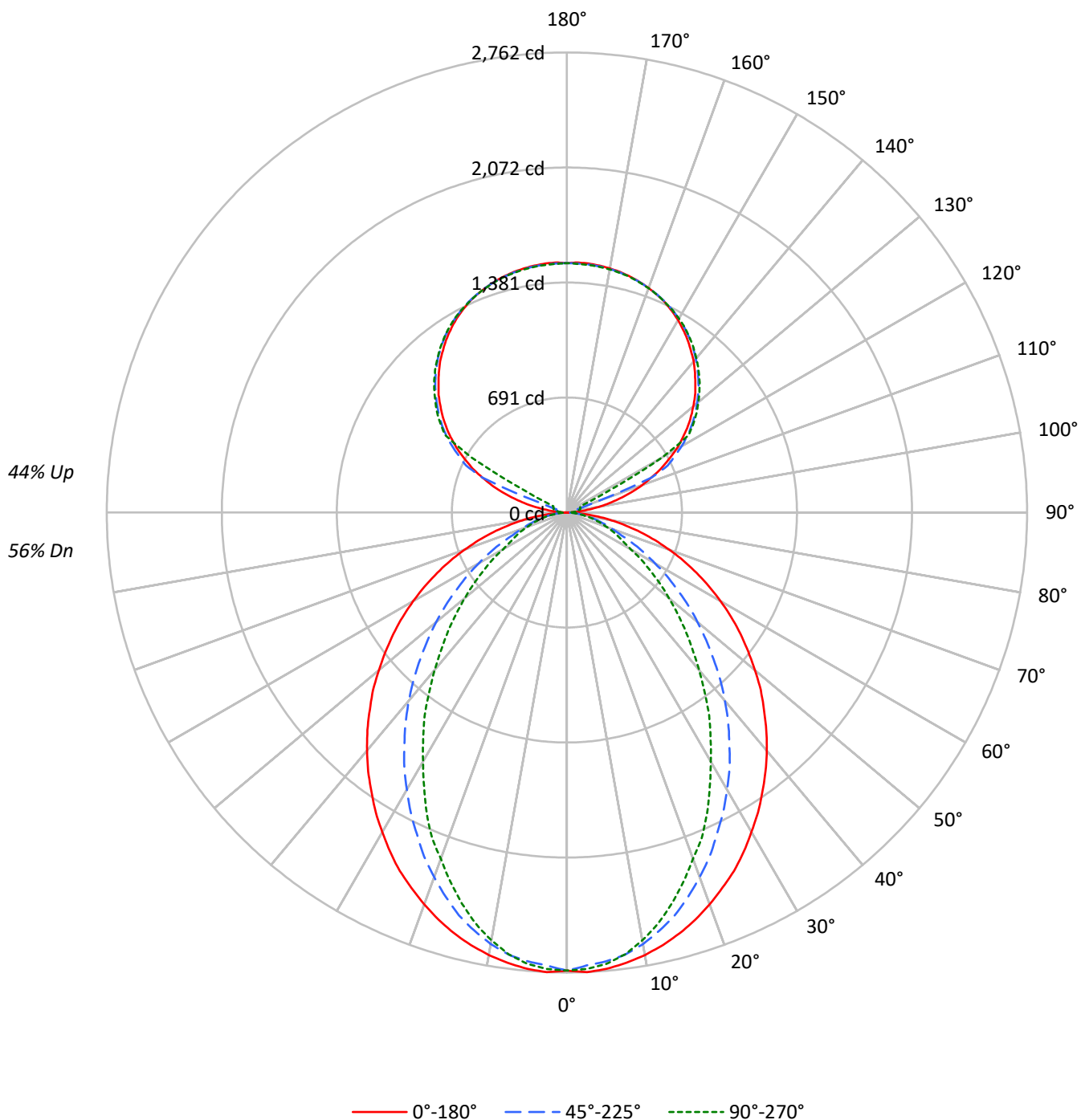
Lumens per Lamp: N/A
Luminaire Lumens: 10047.6 lumens
Efficiency: N/A
Efficacy: 115.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 86.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P912629

CATALOG NUMBER: DFN2DIP-TR3F0-060D040US850-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P912629

CATALOG NUMBER: DFN2DIP-TR3F0-060D040US850-RLLONL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62
1	100	96	92	88	93	89	86	83	77	75	72	66	64	63	56	54	53
2	91	84	78	73	85	79	73	69	68	64	61	58	56	53	50	48	46
3	84	74	67	62	78	70	63	58	61	56	52	52	49	46	44	42	40
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35
5	71	59	51	46	66	56	49	43	49	43	39	42	38	35	36	33	31
6	65	54	46	40	61	50	43	38	44	39	34	39	34	31	33	30	27
7	61	49	41	35	56	46	39	34	40	35	30	35	31	27	30	27	24
8	56	44	37	31	52	42	35	30	37	31	27	32	28	25	28	25	22
9	53	41	33	28	49	38	32	27	34	28	25	30	25	22	26	23	20
10	49	37	30	25	46	35	29	24	31	26	22	28	23	20	24	21	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3427	3427	3427
5°	3431	3370	3392
10°	3395	3301	3279
15°	3346	3189	3106
20°	3282	3036	2895
25°	3217	2865	2692
30°	3130	2689	2434
35°	3045	2502	2207
40°	2958	2307	1948
45°	2857	2092	1714
50°	2752	1875	1484
55°	2643	1644	1264
60°	2517	1402	1038
65°	2371	1157	932
70°	2194	928	840
75°	1972	812	760
80°	1650	672	651
85°	1122	435	476

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2857 cd/sqm

TEST NUMBER: P912629

CATALOG NUMBER: DFN2DIP-TR3F0-060D040US850-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	257.7	2.6
10°-20°	707.6	7.0
20°-30°	993.4	9.9
30°-40°	1082.8	10.8
40°-50°	995.2	9.9
50°-60°	781.6	7.8
60°-70°	508.8	5.1
70°-80°	261.9	2.6
80°-90°	69.5	0.7
90°-100°	49.4	0.5
100°-110°	184.0	1.8
110°-120°	488.1	4.9
120°-130°	809.5	8.1
130°-140°	859.9	8.6
140°-150°	799.2	8.0
150°-160°	642.5	6.4
160°-170°	414.0	4.1
170°-180°	142.5	1.4
0°-30°	1958.7	19.5
0°-40°	3041.5	30.3
0°-60°	4818.4	48.0
0°-90°	5658.6	56.3
90°-120°	721.5	7.2
90°-150°	3190.0	31.7
90°-180°	4389.0	43.7
0°-180°	10047.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2750	2750	2750	2750	2750	
5°	2750	2738	2705	2728	2720	261
15°	2616	2588	2504	2456	2432	737
25°	2374	2295	2130	2028	1991	1092
35°	2046	1919	1700	1543	1488	1281
45°	1672	1506	1244	1068	1008	1292
55°	1272	1078	809	660	612	1136
65°	859	657	433	349	341	851
75°	458	284	199	182	179	484
85°	107	55	47	47	47	123
90°	1	13	22	27	29	9
95°	70	35	42	48	47	83
105°	329	362	66	78	82	352
115°	623	641	668	167	89	613
125°	881	895	915	923	926	785
135°	1090	1107	1117	1128	1126	842
145°	1264	1263	1281	1289	1284	791
155°	1392	1382	1395	1402	1393	641
165°	1467	1460	1464	1471	1464	414
175°	1500	1493	1495	1502	1492	143
180°	1497	1497	1497	1497	1497	

TEST NUMBER: P912629

CATALOG NUMBER: DFN2DIP-TR3F0-060D040US850-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2750.1	2750.1	2750.1	2750.1	2750.1
2.5°	2762.5	2750.1	2722.6	2747.7	2742.7
5°	2750.1	2737.7	2705.2	2727.7	2720.3
7.5°	2727.7	2712.8	2678.0	2687.8	2675.4
10°	2697.8	2680.3	2630.8	2623.1	2608.3
12.5°	2660.6	2638.1	2570.8	2556.0	2528.5
15°	2615.7	2588.2	2503.7	2456.4	2431.6
17.5°	2563.5	2523.5	2419.0	2364.3	2324.5
20°	2503.7	2453.8	2329.5	2267.4	2212.5
22.5°	2439.0	2381.7	2237.3	2152.8	2115.5
25°	2374.4	2294.6	2130.4	2028.5	1991.0
27.5°	2297.3	2212.5	2030.8	1913.8	1856.6
30°	2215.1	2120.3	1921.2	1794.5	1727.2
32.5°	2135.4	2020.8	1817.0	1667.5	1605.2
35°	2045.9	1918.9	1700.0	1543.1	1488.2
37.5°	1958.7	1821.6	1590.4	1418.5	1356.4
40°	1866.6	1717.4	1475.7	1299.1	1234.4
42.5°	1772.1	1612.8	1361.4	1177.1	1115.1
45°	1672.5	1505.6	1244.5	1067.5	1007.9
47.5°	1578.0	1401.3	1132.5	955.6	901.0
50°	1473.4	1296.8	1022.9	851.0	799.0
52.5°	1371.2	1184.5	918.4	754.1	706.9
55°	1271.7	1077.6	808.8	659.6	612.3
57.5°	1169.8	970.6	711.9	572.5	532.5
60°	1065.2	866.1	609.7	483.0	443.0
62.5°	963.3	764.2	522.6	403.2	383.4
65°	858.7	657.0	433.1	348.6	340.9
67.5°	759.1	557.4	348.6	306.1	298.7
70°	654.5	460.5	288.6	263.8	253.7
72.5°	555.1	370.7	241.3	221.6	216.5
75°	457.9	283.6	199.1	181.7	179.3
77.5°	361.0	201.5	156.8	146.8	141.8
80°	271.2	144.4	119.3	109.6	109.6
82.5°	189.1	97.1	82.1	77.1	77.1
85°	106.9	54.7	47.2	47.2	47.2
87.5°	39.9	19.9	19.9	17.4	17.4
90°	1.0	13.0	21.6	27.2	29.2
92.5°	27.2	22.7	26.0	28.2	29.2
95°	70.3	34.6	42.1	47.7	46.6
97.5°	126.8	37.9	55.2	58.6	59.6
100°	191.7	43.4	61.8	70.3	72.5
102.5°	263.2	261.2	63.9	75.7	79.1
105°	329.3	361.9	66.1	78.0	82.3
107.5°	406.2	433.3	68.3	80.2	84.5
110°	480.0	502.6	189.6	81.3	85.5

TEST NUMBER: P912629

CATALOG NUMBER: DFN2DIP-TR3F0-060D040US850-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	549.3	568.7	550.3	83.4	86.7
115°	622.8	641.2	668.4	166.8	88.9
117.5°	686.8	708.4	726.9	571.9	288.1
120°	758.3	774.5	794.0	807.1	660.9
122.5°	818.9	836.3	858.0	864.5	865.6
125°	880.7	894.9	915.4	923.0	926.2
127.5°	937.0	952.2	968.5	979.4	980.4
130°	990.1	1007.5	1019.3	1031.3	1030.3
132.5°	1044.2	1058.4	1070.3	1080.1	1079.1
135°	1089.8	1107.2	1116.9	1127.7	1125.6
137.5°	1137.4	1150.4	1161.3	1172.1	1168.9
140°	1184.0	1192.7	1204.6	1214.4	1208.9
142.5°	1223.1	1230.7	1244.7	1253.3	1248.0
145°	1264.3	1263.2	1281.4	1289.1	1283.7
147.5°	1299.9	1296.6	1315.1	1320.5	1316.3
150°	1334.6	1327.0	1344.4	1350.9	1345.4
152.5°	1363.8	1355.2	1371.4	1377.9	1370.4
155°	1392.0	1382.4	1395.3	1401.8	1393.1
157.5°	1414.8	1406.1	1416.0	1423.5	1414.8
160°	1434.3	1427.7	1434.3	1440.7	1433.2
162.5°	1451.6	1445.1	1450.6	1458.1	1448.4
165°	1466.8	1460.3	1463.5	1471.1	1463.5
167.5°	1478.7	1472.1	1475.5	1483.1	1473.3
170°	1488.5	1482.0	1484.1	1491.7	1482.0
172.5°	1494.9	1488.5	1490.7	1498.3	1488.5
175°	1500.3	1492.7	1494.9	1502.5	1491.7
177.5°	1502.5	1494.9	1496.0	1503.7	1493.9
180°	1497.2	1497.2	1497.2	1497.2	1497.2

TEST NUMBER: P912629

CATALOG NUMBER: DFN2DIP-TR3F0-060D040US850-RLONL

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	11.94	12.83	12.85	13.75	14.93	7.92	8.81	8.83	9.73	10.91
	3H	13.62	14.41	14.54	15.34	16.55	9.11	9.90	10.03	10.83	12.04
	4H	14.22	14.97	15.16	15.91	17.12	9.56	10.31	10.49	11.24	12.46
	6H	14.64	15.33	15.59	16.27	17.50	9.88	10.57	10.82	11.51	12.74
	8H	14.76	15.42	15.72	16.38	17.60	9.97	10.62	10.92	11.58	12.81
	12H	14.82	15.44	15.78	16.40	17.65	10.01	10.63	10.97	11.59	12.84
4H	2H	11.97	12.72	12.91	13.65	14.87	8.52	9.27	9.46	10.20	11.42
	3H	13.79	14.41	14.74	15.38	16.61	9.87	10.49	10.82	11.46	12.68
	4H	14.48	15.05	15.44	16.01	17.26	10.41	10.98	11.37	11.94	13.19
	6H	14.99	15.48	15.96	16.46	17.71	10.83	11.32	11.80	12.30	13.55
	8H	15.16	15.61	16.13	16.59	17.86	10.96	11.41	11.93	12.39	13.66
	12H	15.25	15.66	16.24	16.66	17.93	11.02	11.43	12.01	12.42	13.70
8H	4H	14.45	14.90	15.42	15.88	17.15	10.69	11.15	11.67	12.12	13.39
	6H	15.01	15.38	16.01	16.40	17.67	11.20	11.58	12.20	12.60	13.87
	8H	15.22	15.55	16.23	16.56	17.84	11.39	11.72	12.40	12.73	14.01
	12H	15.35	15.64	16.36	16.65	17.98	11.51	11.80	12.52	12.80	14.13
12H	4H	14.40	14.81	15.40	15.81	17.08	10.70	11.11	11.69	12.10	13.37
	6H	14.98	15.31	15.99	16.32	17.61	11.25	11.58	12.26	12.59	13.87
	8H	15.20	15.49	16.21	16.49	17.82	11.46	11.75	12.47	12.75	14.08