

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: P912675

Luminaire Tested: DFN2DIP-TR3F0-080D030US850-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P912675
REPORT IS A COMBINATION OF REPORTS P901801 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-080D030US850-FLLONL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

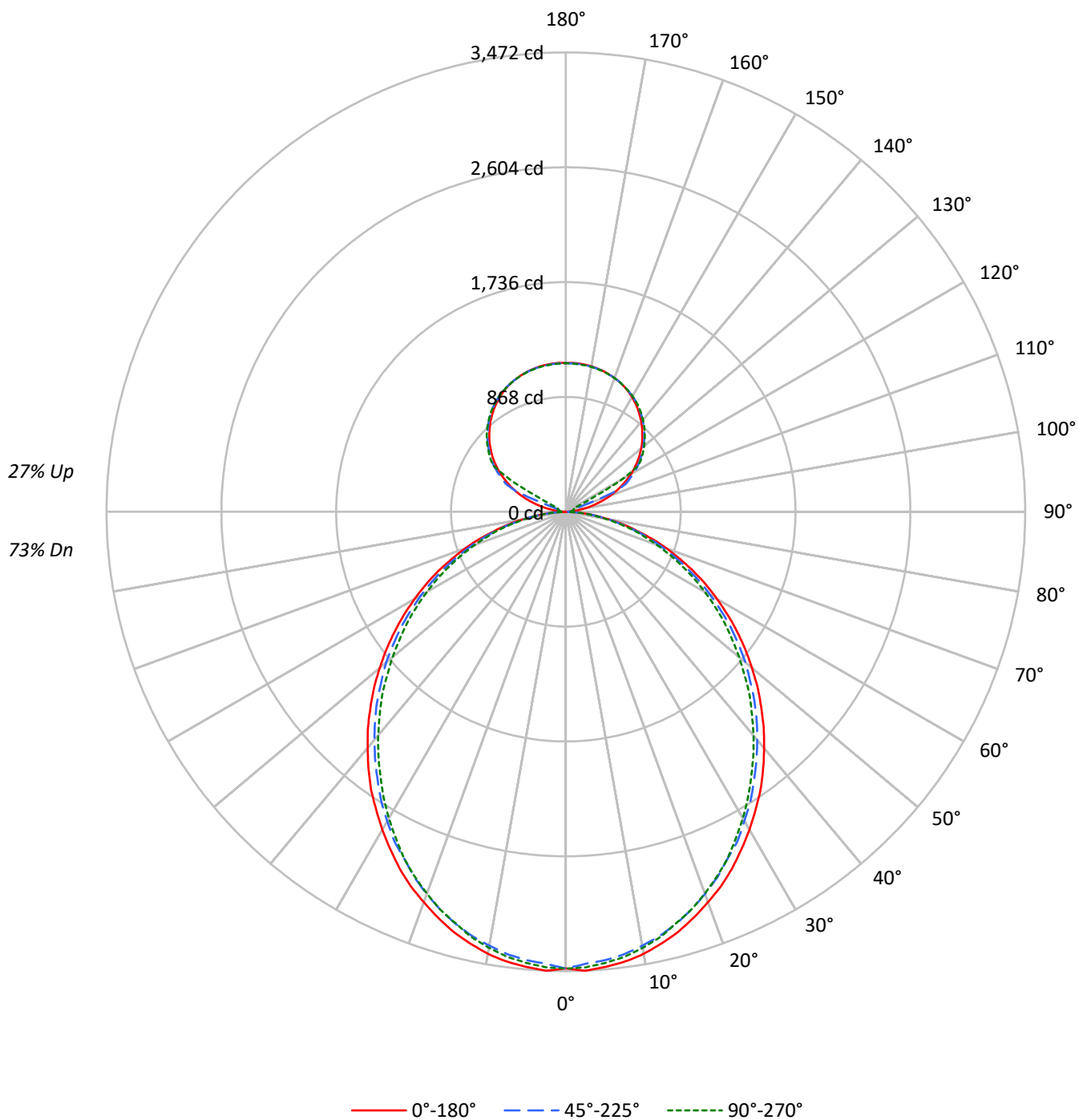
Lumens per Lamp: N/A
Luminaire Lumens: 12077.0 lumens
Efficiency: N/A
Efficacy: 116.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 103.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P912675

CATALOG NUMBER: DFN2DIP-TR3F0-080D030US850-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P912675

CATALOG NUMBER: DFN2DIP-TR3F0-080D030US850-FLLONL

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	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77
1	103	98	94	91	97	94	90	87	84	82	79	76	74	72	68	67	65
2	94	86	80	74	89	82	76	71	74	69	66	67	63	60	60	57	55
3	86	76	68	62	81	72	65	60	65	60	55	59	55	51	53	50	47
4	78	67	59	53	74	64	57	51	58	52	47	53	48	44	48	44	40
5	72	60	51	45	68	57	50	44	52	46	41	47	42	38	43	39	35
6	67	54	45	39	63	52	44	38	47	41	36	43	37	33	39	35	31
7	62	49	41	35	58	47	39	34	43	36	32	39	34	30	36	31	28
8	57	44	36	31	54	43	35	30	39	33	28	36	30	27	33	28	25
9	53	41	33	28	51	39	32	27	36	30	25	33	28	24	30	26	22
10	50	38	30	25	48	36	29	24	33	27	23	31	25	22	28	24	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4302	4302	4302
5°	4306	4238	4268
10°	4269	4178	4207
15°	4204	4105	4114
20°	4117	4006	4019
25°	4030	3888	3909
30°	3922	3778	3770
35°	3819	3649	3624
40°	3693	3518	3484
45°	3567	3387	3341
50°	3429	3249	3176
55°	3284	3090	3023
60°	3121	2901	2848
65°	2942	2705	2641
70°	2715	2467	2418
75°	2400	2180	2208
80°	2020	1814	1815
85°	1428	1194	1172

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3567 cd/sqm

TEST NUMBER: P912675

CATALOG NUMBER: DFN2DIP-TR3F0-080D030US850-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	324.9	2.7
10°-20°	914.2	7.6
20°-30°	1343.5	11.1
30°-40°	1560.4	12.9
40°-50°	1558.4	12.9
50°-60°	1358.9	11.3
60°-70°	1004.5	8.3
70°-80°	568.4	4.7
80°-90°	152.0	1.3
90°-100°	37.0	0.3
100°-110°	138.0	1.1
110°-120°	366.1	3.0
120°-130°	607.1	5.0
130°-140°	644.9	5.3
140°-150°	599.4	5.0
150°-160°	481.9	4.0
160°-170°	310.5	2.6
170°-180°	106.9	0.9
0°-30°	2582.6	21.4
0°-40°	4143.0	34.3
0°-60°	7060.4	58.5
0°-90°	8785.3	72.7
90°-120°	541.1	4.5
90°-150°	2392.5	19.8
90°-180°	3292.0	27.3
0°-180°	12077.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3452	3452	3452	3452	3452	
5°	3452	3439	3402	3429	3423	328
15°	3286	3267	3223	3237	3220	926
25°	2974	2948	2892	2898	2892	1369
35°	2566	2533	2480	2460	2443	1602
45°	2088	2065	2015	1979	1965	1612
55°	1580	1560	1520	1481	1464	1413
65°	1066	1046	1012	983	966	1054
75°	558	551	534	515	521	595
85°	136	133	130	119	116	152
90°	1	10	16	20	22	11
95°	53	26	32	36	35	63
105°	247	271	50	58	62	264
115°	467	481	501	125	67	460
125°	660	671	687	692	695	589
135°	817	830	838	846	844	631
145°	948	947	961	967	963	593
155°	1044	1037	1046	1051	1045	481
165°	1100	1095	1098	1103	1098	311
175°	1125	1120	1121	1127	1119	107
180°	1123	1123	1123	1123	1123	

TEST NUMBER: P912675

CATALOG NUMBER: DFN2DIP-TR3F0-080D030US850-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3452.1	3452.1	3452.1	3452.1	3452.1
2.5°	3472.2	3455.6	3419.0	3452.1	3445.8
5°	3452.1	3439.1	3402.5	3428.9	3422.6
7.5°	3428.9	3409.2	3372.6	3399.3	3392.7
10°	3392.7	3369.4	3329.6	3355.9	3346.2
12.5°	3342.6	3322.9	3283.1	3299.6	3293.0
15°	3286.3	3266.6	3223.2	3236.6	3220.1
17.5°	3216.5	3196.8	3153.4	3170.1	3153.4
20°	3140.1	3120.4	3073.9	3083.8	3070.7
22.5°	3064.1	3034.1	2990.8	2990.8	2984.1
25°	2974.2	2947.8	2891.5	2897.8	2891.5
27.5°	2874.5	2851.3	2808.3	2798.5	2781.9
30°	2775.3	2748.4	2698.9	2689.0	2675.6
32.5°	2668.9	2649.2	2595.9	2575.9	2562.6
35°	2566.0	2533.0	2479.7	2459.7	2443.1
37.5°	2449.8	2419.8	2366.7	2343.4	2326.9
40°	2330.5	2303.6	2250.5	2220.9	2207.5
42.5°	2214.2	2187.4	2134.6	2101.1	2081.5
45°	2088.1	2064.8	2014.8	1978.6	1965.3
47.5°	1965.3	1942.0	1888.7	1852.1	1832.4
50°	1835.6	1819.1	1772.5	1726.0	1709.5
52.5°	1709.5	1686.2	1643.3	1606.7	1583.4
55°	1580.2	1560.1	1520.4	1480.6	1464.0
57.5°	1450.7	1434.2	1390.8	1351.0	1337.6
60°	1321.0	1308.1	1261.5	1224.9	1215.0
62.5°	1194.9	1171.8	1138.6	1105.6	1092.1
65°	1065.7	1045.7	1012.5	982.6	966.0
67.5°	932.9	916.0	886.4	863.2	849.8
70°	810.0	796.6	766.8	743.5	730.4
72.5°	683.9	670.6	654.0	630.8	620.9
75°	557.5	551.2	534.3	514.6	521.2
77.5°	444.8	431.4	424.7	414.9	405.0
80°	332.1	328.6	321.9	312.1	305.3
82.5°	225.8	225.8	222.6	209.2	209.2
85°	136.0	132.7	129.6	119.4	116.2
87.5°	59.9	53.2	46.5	36.6	33.2
90°	0.8	9.8	16.2	20.4	21.8
92.5°	20.4	17.1	19.5	21.2	21.8
95°	52.8	26.0	31.6	35.8	34.9
97.5°	95.0	28.5	41.4	43.9	44.7
100°	143.8	32.5	46.4	52.8	54.5
102.5°	197.4	195.8	47.9	56.8	59.3
105°	247.0	271.4	49.6	58.4	61.8
107.5°	304.6	324.9	51.2	60.1	63.4
110°	360.0	376.9	142.2	61.0	64.2

TEST NUMBER: P912675

CATALOG NUMBER: DFN2DIP-TR3F0-080D030US850-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	412.0	426.5	412.8	62.5	65.0
115°	467.1	481.0	501.3	125.1	66.7
117.5°	515.1	531.3	545.2	429.0	216.1
120°	568.7	580.9	595.5	605.3	495.6
122.5°	614.2	627.3	643.6	648.3	649.2
125°	660.5	671.1	686.6	692.2	694.7
127.5°	702.8	714.1	726.4	734.5	735.3
130°	742.6	755.7	764.5	773.4	772.8
132.5°	783.2	793.8	802.7	810.0	809.2
135°	817.3	830.4	837.6	845.8	844.2
137.5°	853.0	862.8	871.0	879.1	876.7
140°	888.0	894.5	903.4	910.7	906.7
142.5°	917.4	923.0	933.6	940.0	936.0
145°	948.2	947.3	961.2	966.8	962.7
147.5°	974.9	972.5	986.3	990.3	987.1
150°	1001.0	995.3	1008.3	1013.1	1009.1
152.5°	1022.8	1016.4	1028.6	1033.5	1027.8
155°	1044.0	1036.8	1046.5	1051.3	1044.9
157.5°	1061.1	1054.7	1062.0	1067.6	1061.1
160°	1075.7	1070.9	1075.7	1080.6	1074.8
162.5°	1088.7	1083.8	1087.9	1093.6	1086.3
165°	1100.0	1095.2	1097.7	1103.3	1097.7
167.5°	1109.0	1104.1	1106.6	1112.3	1105.0
170°	1116.3	1111.4	1113.1	1118.8	1111.4
172.5°	1121.2	1116.3	1118.0	1123.6	1116.3
175°	1125.2	1119.5	1121.2	1126.9	1118.8
177.5°	1126.9	1121.2	1122.1	1127.7	1120.4
180°	1122.9	1122.9	1122.9	1122.9	1122.9

TEST NUMBER: P912675

CATALOG NUMBER: DFN2DIP-TR3F0-080D030US850-FLLONL

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	14.17	15.28	14.90	16.03	16.94	13.74	14.85	14.47	15.60	16.51
	3H	15.84	16.83	16.58	17.60	18.54	15.37	16.37	16.12	17.13	18.07
	4H	16.43	17.37	17.19	18.15	19.09	15.96	16.90	16.73	17.68	18.63
	6H	16.83	17.70	17.61	18.49	19.45	16.36	17.23	17.14	18.02	18.98
	8H	16.94	17.77	17.73	18.57	19.54	16.47	17.30	17.26	18.11	19.07
	12H	17.00	17.79	17.79	18.58	19.57	16.52	17.31	17.32	18.11	19.10
4H	2H	14.65	15.60	15.42	16.37	17.32	14.31	15.25	15.08	16.03	16.98
	3H	16.53	17.32	17.31	18.13	19.09	16.14	16.93	16.92	17.74	18.70
	4H	17.25	17.96	18.05	18.77	19.77	16.85	17.56	17.64	18.37	19.37
	6H	17.77	18.39	18.58	19.22	20.22	17.37	17.99	18.18	18.82	19.82
	8H	17.92	18.50	18.74	19.33	20.34	17.51	18.09	18.33	18.92	19.93
	12H	18.00	18.52	18.84	19.37	20.39	17.59	18.11	18.42	18.96	19.97
8H	4H	17.46	18.04	18.28	18.87	19.88	17.10	17.68	17.92	18.51	19.52
	6H	18.09	18.57	18.94	19.44	20.46	17.73	18.21	18.58	19.09	20.10
	8H	18.31	18.74	19.17	19.60	20.63	17.94	18.37	18.80	19.24	20.27
	12H	18.45	18.82	19.31	19.68	20.76	18.07	18.44	18.93	19.30	20.39
12H	4H	17.46	17.98	18.30	18.83	19.85	17.11	17.63	17.95	18.48	19.50
	6H	18.12	18.55	18.98	19.42	20.45	17.77	18.20	18.63	19.07	20.10
	8H	18.37	18.75	19.23	19.60	20.69	18.02	18.39	18.88	19.25	20.34