

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: P911059

Luminaire Tested: DFN2DIP-PN2F0-030D030US850-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P911059
REPORT IS A COMBINATION OF REPORTS P900994 AND P897905
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-030D030US850-RLLONL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

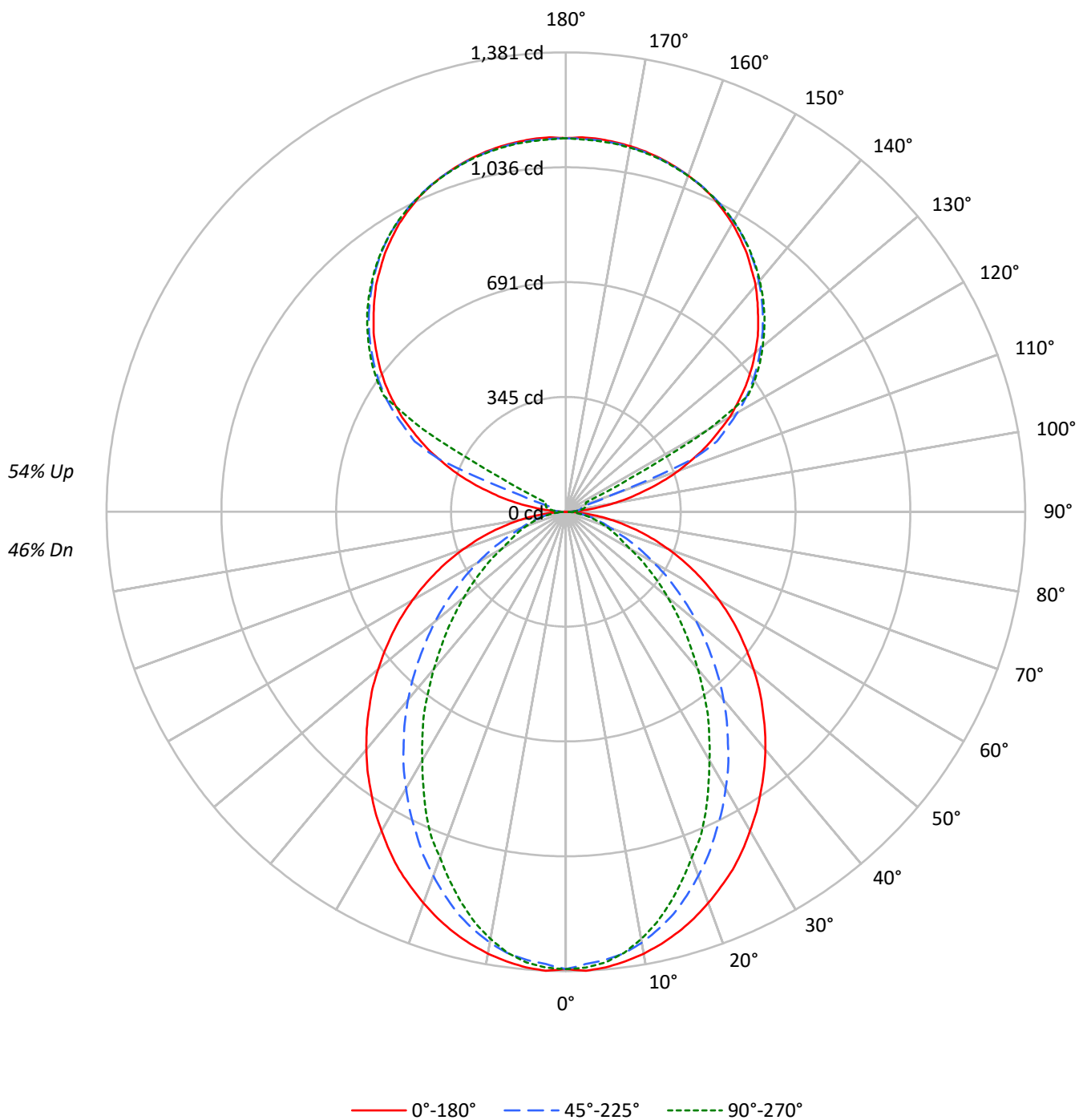
Lumens per Lamp: N/A
Luminaire Lumens: 6121.7 lumens
Efficiency: N/A
Efficacy: 131.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 46.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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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	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53
1	97	93	90	86	89	86	83	80	72	70	68	59	58	56	47	46	45
2	89	82	76	71	82	76	70	66	63	60	57	52	50	48	42	40	39
3	81	72	65	60	75	67	61	56	56	52	48	47	43	41	38	35	34
4	75	64	57	51	68	60	53	48	50	45	41	42	38	35	34	31	29
5	69	58	50	44	63	53	46	41	45	40	36	38	34	31	31	28	26
6	63	52	44	38	58	48	41	36	41	36	32	34	30	27	28	25	23
7	59	47	39	34	54	44	37	32	37	32	28	31	27	24	26	23	21
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19
9	51	39	32	27	47	36	30	25	31	26	22	27	23	20	22	19	17
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	20	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2978	2978	2978
5°	2978	2925	2945
10°	2944	2861	2845
15°	2898	2760	2693
20°	2840	2624	2508
25°	2780	2472	2329
30°	2702	2317	2104
35°	2624	2152	1906
40°	2545	1981	1680
45°	2454	1792	1476
50°	2359	1602	1276
55°	2260	1400	1085
60°	2144	1190	889
65°	2011	977	795
70°	1850	778	713
75°	1647	674	640
80°	1355	548	542
85°	886	340	384

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2454 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.9	2.1
10°-20°	353.8	5.8
20°-30°	496.7	8.1
30°-40°	541.4	8.8
40°-50°	497.6	8.1
50°-60°	390.8	6.4
60°-70°	254.4	4.2
70°-80°	130.9	2.1
80°-90°	35.4	0.6
90°-100°	37.0	0.6
100°-110°	138.0	2.3
110°-120°	366.1	6.0
120°-130°	607.1	9.9
130°-140°	644.9	10.5
140°-150°	599.4	9.8
150°-160°	481.9	7.9
160°-170°	310.5	5.1
170°-180°	106.9	1.7
0°-30°	979.3	16.0
0°-40°	1520.7	24.8
0°-60°	2409.2	39.4
0°-90°	2829.9	46.2
90°-120°	541.1	8.8
90°-150°	2392.5	39.1
90°-180°	3292.0	53.8
0°-180°	6121.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1375	1375	1375	1375	1375	
5°	1375	1369	1353	1364	1360	130
15°	1308	1294	1252	1228	1216	369
25°	1187	1147	1065	1014	995	546
35°	1023	959	850	772	744	640
45°	836	753	622	534	504	646
55°	636	539	404	330	306	568
65°	429	328	216	174	170	426
75°	229	142	100	91	90	242
85°	54	27	24	24	24	61
90°	1	10	16	20	22	6
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	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1375.0	1375.0	1375.0	1375.0	1375.0
2.5°	1381.3	1375.0	1361.3	1373.8	1371.4
5°	1375.0	1368.8	1352.6	1363.8	1360.1
7.5°	1363.8	1356.4	1339.0	1343.9	1337.7
10°	1348.9	1340.2	1315.4	1311.5	1304.2
12.5°	1330.2	1319.0	1285.4	1278.0	1264.3
15°	1307.8	1294.1	1251.8	1228.2	1215.8
17.5°	1281.7	1261.8	1209.5	1182.2	1162.2
20°	1251.8	1226.9	1164.7	1133.7	1106.2
22.5°	1219.6	1190.8	1118.6	1076.4	1057.8
25°	1187.2	1147.3	1065.2	1014.2	995.4
27.5°	1148.6	1106.2	1015.4	957.0	928.2
30°	1107.6	1060.2	960.6	897.3	863.6
32.5°	1067.6	1010.4	908.5	833.7	802.6
35°	1022.9	959.4	849.9	771.5	744.1
37.5°	979.4	910.8	795.2	709.2	678.3
40°	933.3	858.7	737.9	649.5	617.3
42.5°	886.0	806.5	680.7	588.5	557.5
45°	836.3	752.8	622.3	533.8	503.9
47.5°	788.9	700.7	566.3	477.8	450.5
50°	736.7	648.3	511.5	425.5	399.5
52.5°	685.6	592.3	459.2	377.1	353.4
55°	635.8	538.8	404.3	329.8	306.2
57.5°	584.9	485.3	356.0	286.2	266.3
60°	532.5	433.1	304.9	241.4	221.6
62.5°	481.6	382.1	261.3	201.6	191.7
65°	429.3	328.5	216.5	174.2	170.5
67.5°	379.6	278.7	174.2	153.0	149.3
70°	327.3	230.2	144.3	131.9	126.9
72.5°	277.5	185.3	120.7	110.8	108.2
75°	228.9	141.8	99.6	90.8	89.6
77.5°	180.4	100.7	78.4	73.4	70.9
80°	135.6	72.2	59.7	54.8	54.8
82.5°	94.5	48.6	41.0	38.6	38.6
85°	53.5	27.3	23.6	23.6	23.6
87.5°	20.0	9.9	9.9	8.8	8.8
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

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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

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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	10.46	11.26	11.45	12.26	13.59	6.43	7.23	7.42	8.23	9.56
	3H	12.11	12.83	13.12	13.84	15.19	7.60	8.31	8.60	9.32	10.67
	4H	12.71	13.38	13.73	14.40	15.75	8.03	8.71	9.05	9.72	11.08
	6H	13.11	13.73	14.14	14.75	16.12	8.34	8.96	9.37	9.98	11.35
	8H	13.23	13.82	14.26	14.85	16.22	8.42	9.01	9.45	10.05	11.41
	12H	13.28	13.84	14.32	14.87	16.26	8.45	9.02	9.49	10.05	11.43
4H	2H	10.47	11.15	11.49	12.16	13.52	7.01	7.68	8.03	8.70	10.05
	3H	12.27	12.83	13.31	13.88	15.25	8.33	8.90	9.37	9.94	11.31
	4H	12.95	13.46	13.99	14.50	15.89	8.87	9.38	9.91	10.42	11.81
	6H	13.44	13.88	14.49	14.94	16.33	9.27	9.71	10.32	10.77	12.15
	8H	13.60	14.02	14.65	15.07	16.47	9.39	9.80	10.44	10.85	12.25
	12H	13.69	14.06	14.75	15.12	16.53	9.44	9.81	10.51	10.88	12.28
8H	4H	12.91	13.32	13.96	14.37	15.77	9.13	9.55	10.18	10.60	12.00
	6H	13.45	13.79	14.52	14.88	16.28	9.63	9.97	10.70	11.06	12.46
	8H	13.65	13.95	14.74	15.03	16.45	9.81	10.10	10.89	11.18	12.60
	12H	13.78	14.04	14.86	15.11	16.57	9.91	10.17	10.99	11.24	12.70
12H	4H	12.86	13.23	13.93	14.30	15.70	9.13	9.51	10.20	10.57	11.98
	6H	13.42	13.72	14.51	14.80	16.22	9.67	9.97	10.75	11.05	12.47
	8H	13.63	13.89	14.71	14.96	16.42	9.87	10.13	10.95	11.20	12.66

END OF REPORT