

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: P914001

Luminaire Tested: DFN2DIP-PN3F0-080D030US927-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914001
REPORT IS A COMBINATION OF REPORTS P901041 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-080D030US927-FLLONL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

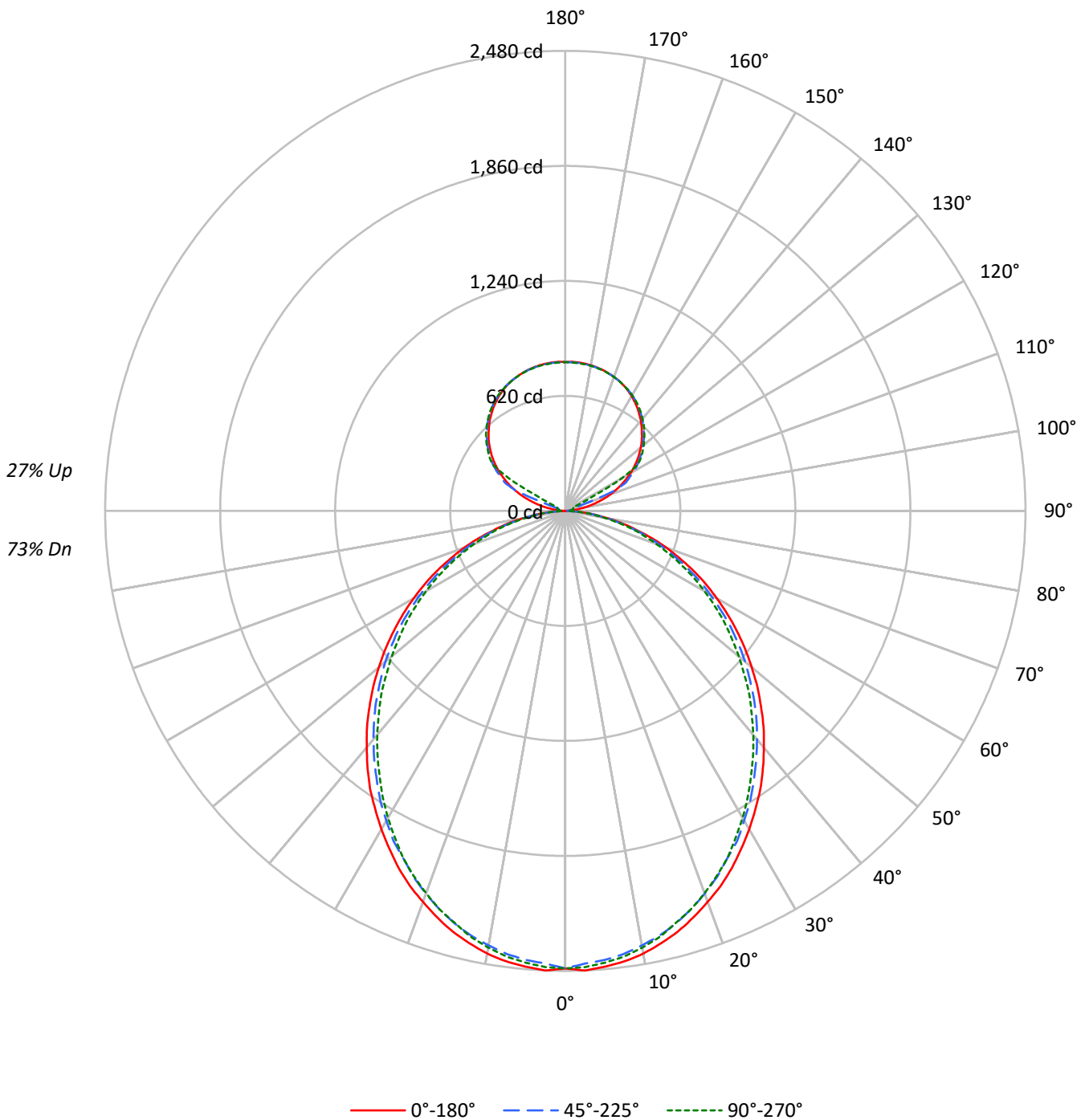
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8626.8 lumens
Efficiency: N/A
Efficacy: 83.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 103.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	77	77	77	73
1	103	98	94	91	97	94	90	87	84	82	79	76	74	72	68	67	65	65	65	65	61
2	94	86	80	74	89	82	76	71	74	69	66	67	63	60	60	57	55	55	55	55	51
3	86	76	68	62	81	72	65	60	65	60	55	59	55	51	53	50	47	47	47	47	44
4	78	67	59	53	74	64	57	51	58	52	47	53	48	44	48	44	40	40	40	40	37
5	72	60	51	45	68	57	50	44	52	46	41	47	42	38	43	39	35	35	35	35	32
6	67	54	45	39	63	52	44	38	47	41	36	43	37	33	39	35	31	31	31	31	29
7	62	49	41	35	58	47	39	34	43	36	32	39	34	30	36	31	28	28	28	28	25
8	57	44	36	31	54	43	35	30	39	33	28	36	30	27	33	28	25	25	25	25	23
9	53	41	33	28	51	39	32	27	36	30	25	33	28	24	30	26	22	22	22	22	20
10	50	38	30	25	48	36	29	24	33	27	23	31	25	22	28	24	20	20	20	20	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2883	2883	2883
5°	2885	2840	2860
10°	2860	2800	2820
15°	2817	2752	2759
20°	2758	2686	2696
25°	2700	2607	2623
30°	2627	2534	2530
35°	2558	2448	2433
40°	2474	2361	2340
45°	2389	2273	2245
50°	2297	2181	2135
55°	2200	2075	2033
60°	2090	1949	1917
65°	1970	1819	1780
70°	1817	1659	1632
75°	1606	1468	1493
80°	1351	1225	1232
85°	952	810	803

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2389 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	232.1	2.7
10°-20°	653.0	7.6
20°-30°	959.7	11.1
30°-40°	1114.6	12.9
40°-50°	1113.2	12.9
50°-60°	970.7	11.3
60°-70°	717.6	8.3
70°-80°	406.0	4.7
80°-90°	108.6	1.3
90°-100°	26.5	0.3
100°-110°	98.6	1.1
110°-120°	261.5	3.0
120°-130°	433.7	5.0
130°-140°	460.7	5.3
140°-150°	428.1	5.0
150°-160°	344.2	4.0
160°-170°	221.8	2.6
170°-180°	76.3	0.9
0°-30°	1844.8	21.4
0°-40°	2959.4	34.3
0°-60°	5043.4	58.5
0°-90°	6275.5	72.7
90°-120°	386.5	4.5
90°-150°	1709.0	19.8
90°-180°	2351.0	27.3
0°-180°	8626.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2466	2466	2466	2466	2466	
5°	2466	2457	2430	2449	2445	234
15°	2348	2333	2302	2312	2300	661
25°	2125	2106	2066	2070	2066	978
35°	1833	1809	1771	1757	1745	1145
45°	1492	1475	1439	1413	1404	1151
55°	1129	1114	1086	1058	1046	1009
65°	761	747	723	702	690	753
75°	398	394	382	368	372	425
85°	97	95	93	85	83	108
90°	1	7	12	15	16	8
95°	38	18	23	26	25	45
105°	176	194	35	42	44	188
115°	334	344	358	89	48	329
125°	472	479	490	494	496	421
135°	584	593	598	604	603	451
145°	677	677	687	691	688	424
155°	746	741	748	751	746	344
165°	786	782	784	788	784	222
175°	804	800	801	805	799	76
180°	802	802	802	802	802	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2465.9	2465.9	2465.9	2465.9	2465.9
2.5°	2480.2	2468.4	2442.3	2465.9	2461.4
5°	2465.9	2456.6	2430.5	2449.3	2444.8
7.5°	2449.3	2435.2	2409.1	2428.2	2423.4
10°	2423.4	2406.8	2378.4	2397.2	2390.2
12.5°	2387.7	2373.6	2345.2	2357.0	2352.2
15°	2347.5	2333.4	2302.4	2312.0	2300.2
17.5°	2297.6	2283.5	2252.6	2264.4	2252.6
20°	2243.1	2229.0	2195.8	2202.8	2193.5
22.5°	2188.7	2167.3	2136.4	2136.4	2131.6
25°	2124.6	2105.7	2065.5	2070.0	2065.5
27.5°	2053.3	2036.8	2006.0	1999.0	1987.2
30°	1982.4	1963.3	1927.9	1920.8	1911.2
32.5°	1906.5	1892.4	1854.3	1840.0	1830.5
35°	1832.9	1809.3	1771.3	1757.0	1745.2
37.5°	1749.9	1728.5	1690.6	1674.0	1662.2
40°	1664.7	1645.5	1607.6	1586.4	1576.8
42.5°	1581.7	1562.5	1524.8	1500.9	1486.8
45°	1491.6	1475.0	1439.2	1413.3	1403.8
47.5°	1403.8	1387.2	1349.2	1323.0	1308.9
50°	1311.2	1299.4	1266.1	1233.0	1221.1
52.5°	1221.1	1204.5	1173.9	1147.7	1131.1
55°	1128.8	1114.4	1086.1	1057.6	1045.8
57.5°	1036.3	1024.4	993.5	965.0	955.4
60°	943.6	934.4	901.1	875.0	867.9
62.5°	853.6	837.0	813.3	789.7	780.1
65°	761.3	746.9	723.3	701.9	690.1
67.5°	666.4	654.3	633.2	616.6	607.0
70°	578.6	569.0	547.7	531.1	521.7
72.5°	488.5	479.0	467.1	450.6	443.5
75°	398.2	393.7	381.7	367.6	372.3
77.5°	317.7	308.2	303.4	296.4	289.3
80°	237.3	234.7	230.0	222.9	218.1
82.5°	161.3	161.3	159.0	149.4	149.4
85°	97.1	94.8	92.6	85.3	83.0
87.5°	42.8	38.0	33.2	26.1	23.7
90°	0.6	7.0	11.6	14.6	15.6
92.5°	14.6	12.2	13.9	15.1	15.6
95°	37.7	18.5	22.6	25.6	25.0
97.5°	67.9	20.4	29.5	31.4	31.9
100°	102.7	23.2	33.1	37.7	38.9
102.5°	141.0	139.9	34.2	40.6	42.4
105°	176.4	193.8	35.4	41.7	44.1
107.5°	217.6	232.1	36.6	42.9	45.3
110°	257.1	269.3	101.6	43.6	45.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	294.3	304.7	294.8	44.7	46.4
115°	333.7	343.6	358.1	89.4	47.6
117.5°	368.0	379.5	389.4	306.4	154.4
120°	406.2	414.9	425.4	432.4	354.0
122.5°	438.7	448.1	459.7	463.1	463.7
125°	471.8	479.3	490.4	494.5	496.2
127.5°	502.0	510.1	518.9	524.7	525.2
130°	530.4	539.8	546.1	552.5	552.0
132.5°	559.4	567.0	573.4	578.6	578.1
135°	583.8	593.2	598.3	604.2	603.0
137.5°	609.3	616.3	622.2	628.0	626.2
140°	634.3	639.0	645.3	650.5	647.7
142.5°	655.3	659.3	666.9	671.5	668.6
145°	677.3	676.7	686.6	690.6	687.7
147.5°	696.4	694.7	704.6	707.4	705.1
150°	715.0	711.0	720.3	723.7	720.8
152.5°	730.6	726.0	734.7	738.2	734.2
155°	745.8	740.6	747.5	751.0	746.4
157.5°	758.0	753.4	758.6	762.6	758.0
160°	768.4	764.9	768.4	771.9	767.8
162.5°	777.7	774.2	777.1	781.2	775.9
165°	785.8	782.4	784.1	788.1	784.1
167.5°	792.2	788.7	790.4	794.6	789.3
170°	797.4	793.9	795.1	799.2	793.9
172.5°	800.9	797.4	798.6	802.6	797.4
175°	803.7	799.7	800.9	804.9	799.2
177.5°	804.9	800.9	801.5	805.6	800.3
180°	802.1	802.1	802.1	802.1	802.1



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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	12.79	13.90	13.52	14.65	15.56	12.35	13.46	13.08	14.22	15.12
	3H	14.46	15.46	15.21	16.22	17.16	13.98	14.98	14.73	15.74	16.68
	4H	15.06	16.00	15.82	16.77	17.72	14.57	15.51	15.34	16.29	17.24
	6H	15.46	16.33	16.24	17.12	18.08	14.97	15.84	15.75	16.63	17.59
	8H	15.57	16.40	16.36	17.21	18.17	15.08	15.91	15.87	16.71	17.68
	12H	15.63	16.42	16.42	17.21	18.21	15.13	15.92	15.92	16.72	17.71
4H	2H	13.28	14.22	14.04	14.99	15.94	12.92	13.87	13.69	14.64	15.59
	3H	15.16	15.94	15.94	16.75	17.72	14.76	15.54	15.54	16.35	17.32
	4H	15.88	16.59	16.67	17.40	18.39	15.46	16.18	16.26	16.99	17.98
	6H	16.40	17.02	17.21	17.85	18.85	15.98	16.60	16.79	17.43	18.43
	8H	16.55	17.13	17.37	17.96	18.97	16.13	16.71	16.94	17.53	18.55
	12H	16.63	17.16	17.47	18.01	19.02	16.20	16.72	17.03	17.57	18.59
8H	4H	16.09	16.67	16.91	17.50	18.51	15.72	16.30	16.54	17.13	18.14
	6H	16.72	17.20	17.57	18.07	19.09	16.35	16.83	17.19	17.70	18.71
	8H	16.94	17.37	17.80	18.24	19.27	16.56	16.99	17.42	17.85	18.88
	12H	17.08	17.46	17.94	18.32	19.40	16.68	17.06	17.54	17.92	19.00
12H	4H	16.09	16.61	16.92	17.46	18.47	15.72	16.25	16.56	17.10	18.11
	6H	16.75	17.18	17.61	18.05	19.08	16.39	16.82	17.25	17.68	18.71
	8H	17.00	17.38	17.86	18.24	19.32	16.63	17.01	17.49	17.87	18.95