

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: P915581

Luminaire Tested: DFN2DIP-TR4F0-070D080US927-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915581
REPORT IS A COMBINATION OF REPORTS P901968 AND P898849
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR4F0-070D080US927-RLLONL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

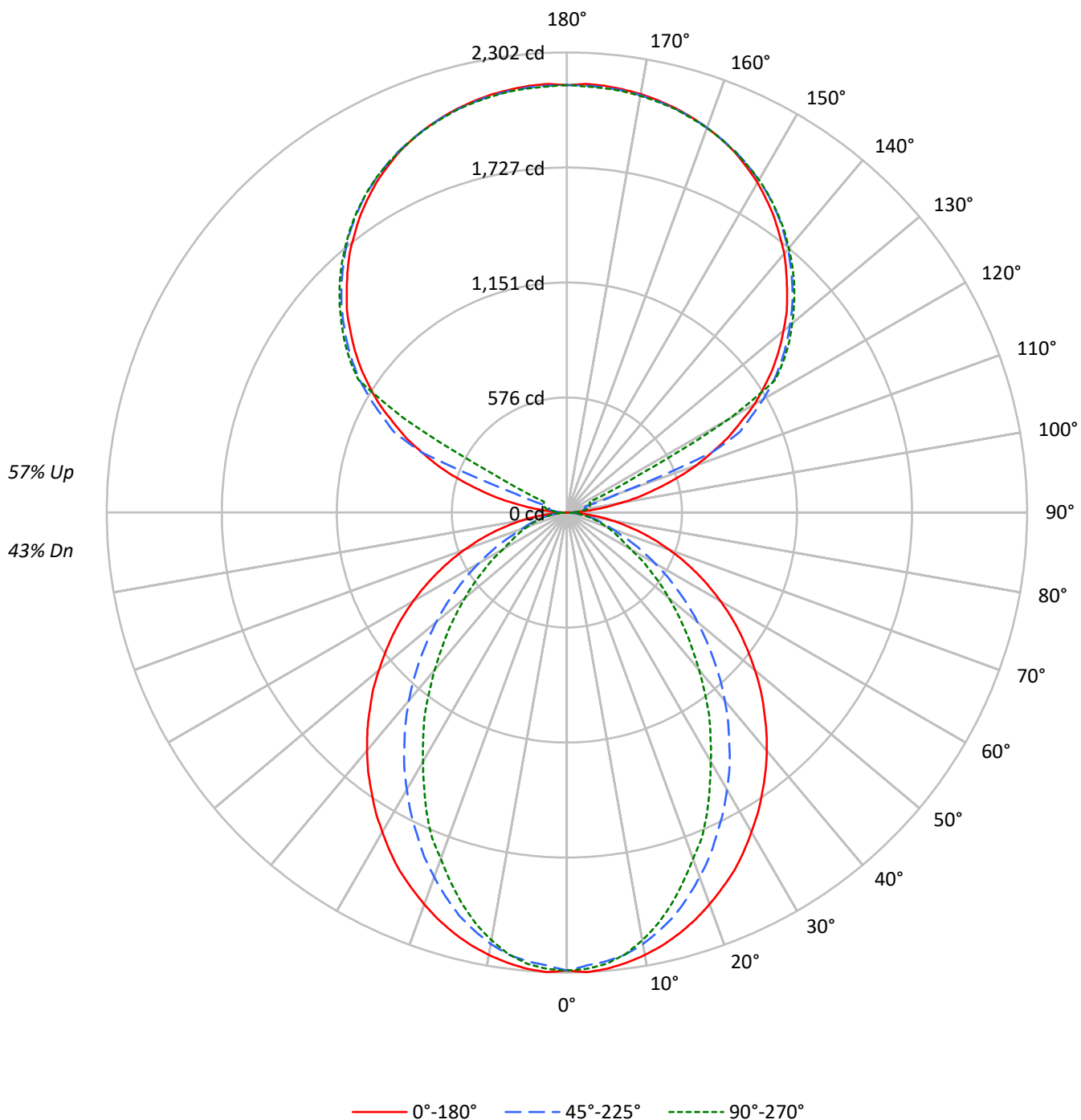
Lumens per Lamp: N/A
Luminaire Lumens: 10987.5 lumens
Efficiency: N/A
Efficacy: 88.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 124.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
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	105	105	105	105	96	96	96	96	79	79	79	64	64	64	50	50	50
1	97	92	89	85	88	85	82	79	70	68	66	57	55	54	44	44	43
2	88	81	75	70	81	75	70	65	62	58	55	50	48	46	40	38	37
3	81	72	65	59	74	66	60	55	55	51	47	45	42	39	36	33	32
4	74	64	56	50	68	59	52	47	49	44	40	40	37	34	32	30	28
5	68	57	49	43	62	53	46	41	44	39	35	36	33	30	29	26	24
6	63	51	43	38	57	47	40	35	40	35	31	33	29	26	26	24	22
7	58	46	39	33	53	43	36	31	36	31	27	30	26	23	24	21	19
8	54	42	35	29	49	39	32	28	33	28	24	28	24	21	22	20	17
9	50	38	31	26	46	36	29	25	30	25	22	25	22	19	21	18	16
10	47	35	28	24	43	33	27	22	28	23	20	24	20	17	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1821	1821	1821
5°	1824	1792	1803
10°	1806	1757	1745
15°	1781	1699	1654
20°	1748	1619	1542
25°	1714	1529	1435
30°	1669	1437	1299
35°	1625	1338	1179
40°	1580	1236	1041
45°	1527	1122	917
50°	1473	1007	795
55°	1417	885	679
60°	1351	757	558
65°	1276	627	503
70°	1185	505	455
75°	1070	445	414
80°	904	374	358
85°	630	249	269

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1527 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.8	2.0
10°-20°	589.7	5.4
20°-30°	827.9	7.5
30°-40°	902.4	8.2
40°-50°	829.4	7.5
50°-60°	651.4	5.9
60°-70°	424.0	3.9
70°-80°	218.2	2.0
80°-90°	59.5	0.5
90°-100°	70.5	0.6
100°-110°	262.9	2.4
110°-120°	697.3	6.3
120°-130°	1156.5	10.5
130°-140°	1228.4	11.2
140°-150°	1141.7	10.4
150°-160°	917.9	8.4
160°-170°	591.5	5.4
170°-180°	203.6	1.9
0°-30°	1632.3	14.9
0°-40°	2534.7	23.1
0°-60°	4015.5	36.5
0°-90°	4717.2	42.9
90°-120°	1030.7	9.4
90°-150°	4557.3	41.5
90°-180°	6270.0	57.1
0°-180°	10987.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2292	2292	2292	2292	2292	
5°	2292	2282	2254	2273	2267	217
15°	2180	2157	2086	2047	2026	614
25°	1979	1912	1775	1690	1659	910
35°	1705	1599	1417	1286	1240	1067
45°	1394	1255	1037	890	840	1076
55°	1060	898	674	550	510	947
65°	716	548	361	290	284	709
75°	382	236	166	151	149	404
85°	89	46	39	39	39	102
90°	2	18	31	39	42	10
95°	100	49	60	68	66	119
105°	470	517	94	111	118	503
115°	890	916	955	238	127	876
125°	1258	1278	1308	1319	1323	1122
135°	1557	1582	1596	1611	1608	1203
145°	1806	1804	1831	1842	1834	1130
155°	1989	1975	1993	2003	1990	916
165°	2096	2086	2091	2102	2091	592
175°	2143	2133	2136	2146	2131	204
180°	2139	2139	2139	2139	2139	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2291.9	2291.9	2291.9	2291.9	2291.9
2.5°	2302.2	2291.9	2269.0	2289.9	2285.7
5°	2291.9	2281.5	2254.5	2273.2	2267.0
7.5°	2273.2	2260.8	2231.8	2239.9	2229.6
10°	2248.3	2233.8	2192.4	2186.0	2173.7
12.5°	2217.2	2198.5	2142.5	2130.1	2107.2
15°	2179.8	2157.0	2086.5	2047.2	2026.5
17.5°	2136.3	2103.1	2015.9	1970.3	1937.1
20°	2086.5	2044.9	1941.3	1889.6	1843.8
22.5°	2032.7	1984.9	1864.5	1794.1	1763.1
25°	1978.7	1912.2	1775.4	1690.4	1659.2
27.5°	1914.5	1843.8	1692.4	1595.0	1547.2
30°	1846.0	1767.0	1601.1	1495.5	1439.4
32.5°	1779.6	1684.1	1514.2	1389.6	1337.7
35°	1704.9	1599.1	1416.7	1286.0	1240.2
37.5°	1632.4	1518.1	1325.4	1182.1	1130.4
40°	1555.5	1431.2	1229.9	1082.7	1028.7
42.5°	1476.8	1344.1	1134.6	981.0	929.3
45°	1393.8	1254.7	1037.1	889.7	839.9
47.5°	1315.0	1167.8	943.8	796.4	750.8
50°	1227.9	1080.7	852.5	709.2	665.9
52.5°	1142.7	987.1	765.3	628.4	589.1
55°	1059.8	898.0	674.0	549.7	510.3
57.5°	974.9	808.9	593.3	477.1	443.9
60°	887.7	721.8	508.1	402.5	369.2
62.5°	802.7	636.8	435.5	336.0	319.5
65°	715.6	547.5	360.9	290.5	284.1
67.5°	632.6	464.5	290.5	255.0	248.9
70°	545.5	383.7	240.5	219.8	211.4
72.5°	462.6	309.0	201.1	184.7	180.5
75°	381.6	236.3	165.9	151.4	149.4
77.5°	300.8	167.9	130.7	122.3	118.2
80°	226.0	120.3	99.5	91.3	91.3
82.5°	157.6	81.0	68.4	64.2	64.2
85°	89.1	45.6	39.4	39.4	39.4
87.5°	33.2	16.5	16.5	14.5	14.5
90°	1.5	18.5	30.9	38.7	41.7
92.5°	38.7	32.6	37.2	40.2	41.7
95°	100.5	49.4	60.3	68.2	66.5
97.5°	181.0	54.2	78.8	83.7	85.1
100°	274.0	61.9	88.2	100.5	103.6
102.5°	376.0	373.0	91.3	108.2	113.0
105°	470.5	517.0	94.4	111.4	117.6
107.5°	580.4	618.9	97.6	114.5	120.7
110°	685.7	718.0	270.9	116.1	122.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	784.7	812.5	786.2	119.1	123.9
115°	889.9	916.2	954.9	238.4	127.0
117.5°	981.2	1012.1	1038.5	817.1	411.7
120°	1083.4	1106.5	1134.5	1153.0	944.0
122.5°	1169.9	1194.8	1225.8	1235.0	1236.7
125°	1258.1	1278.3	1307.7	1318.6	1323.2
127.5°	1338.6	1360.3	1383.7	1399.1	1400.6
130°	1414.5	1439.3	1456.3	1473.4	1471.9
132.5°	1491.9	1512.1	1529.1	1543.0	1541.5
135°	1557.0	1581.7	1595.5	1611.2	1608.0
137.5°	1625.0	1643.5	1659.1	1674.6	1670.0
140°	1691.5	1704.0	1720.9	1734.9	1727.1
142.5°	1747.4	1758.2	1778.2	1790.6	1782.8
145°	1806.2	1804.5	1830.8	1841.7	1833.9
147.5°	1857.1	1852.5	1878.7	1886.5	1880.4
150°	1906.7	1895.8	1920.6	1929.8	1922.1
152.5°	1948.4	1936.1	1959.2	1968.6	1957.8
155°	1988.7	1974.9	1993.4	2002.6	1990.4
157.5°	2021.2	2008.9	2022.8	2033.7	2021.2
160°	2049.1	2039.8	2049.1	2058.3	2047.5
162.5°	2073.8	2064.6	2072.3	2083.1	2069.2
165°	2095.5	2086.3	2090.9	2101.7	2090.9
167.5°	2112.5	2103.2	2107.9	2118.8	2104.8
170°	2126.5	2117.1	2120.3	2131.1	2117.1
172.5°	2135.7	2126.5	2129.6	2140.5	2126.5
175°	2143.4	2132.6	2135.7	2146.5	2131.1
177.5°	2146.5	2135.7	2137.3	2148.2	2134.2
180°	2138.8	2138.8	2138.8	2138.8	2138.8

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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	8.53	9.30	9.55	10.33	11.70	4.50	5.28	5.52	6.30	7.67
	3H	10.20	10.89	11.23	11.93	13.32	5.69	6.38	6.72	7.41	8.80
	4H	10.81	11.46	11.85	12.50	13.90	6.13	6.79	7.18	7.83	9.23
	6H	11.22	11.83	12.28	12.87	14.28	6.45	7.06	7.51	8.10	9.51
	8H	11.35	11.92	12.41	12.98	14.39	6.54	7.12	7.60	8.17	9.58
	12H	11.41	11.95	12.47	13.01	14.43	6.58	7.13	7.65	8.18	9.61
4H	2H	8.54	9.19	9.59	10.23	11.63	5.09	5.75	6.14	6.78	8.18
	3H	10.36	10.91	11.42	11.97	13.38	6.43	6.98	7.49	8.05	9.46
	4H	11.05	11.55	12.12	12.61	14.04	6.98	7.48	8.05	8.54	9.97
	6H	11.56	11.99	12.64	13.07	14.50	7.40	7.83	8.47	8.91	10.34
	8H	11.74	12.14	12.81	13.21	14.65	7.53	7.93	8.60	9.00	10.44
	12H	11.83	12.19	12.92	13.28	14.73	7.59	7.95	8.68	9.04	10.49
8H	4H	11.02	11.42	12.09	12.49	13.93	7.26	7.66	8.33	8.73	10.17
	6H	11.58	11.91	12.68	13.02	14.46	7.77	8.10	8.87	9.22	10.66
	8H	11.80	12.09	12.90	13.18	14.64	7.97	8.26	9.07	9.35	10.81
	12H	11.93	12.19	13.04	13.28	14.78	8.08	8.34	9.19	9.43	10.93
12H	4H	10.97	11.33	12.06	12.41	13.86	7.26	7.62	8.35	8.71	10.16
	6H	11.56	11.84	12.66	12.94	14.40	7.82	8.11	8.93	9.21	10.67
	8H	11.77	12.03	12.88	13.12	14.62	8.03	8.29	9.14	9.38	10.88

END OF REPORT