

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: P904457

Luminaire Tested: DFN2DIP-TR3F0-060D070US830-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P904457
REPORT IS A COMBINATION OF REPORTS P901854 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-060D070US830-RLLONL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

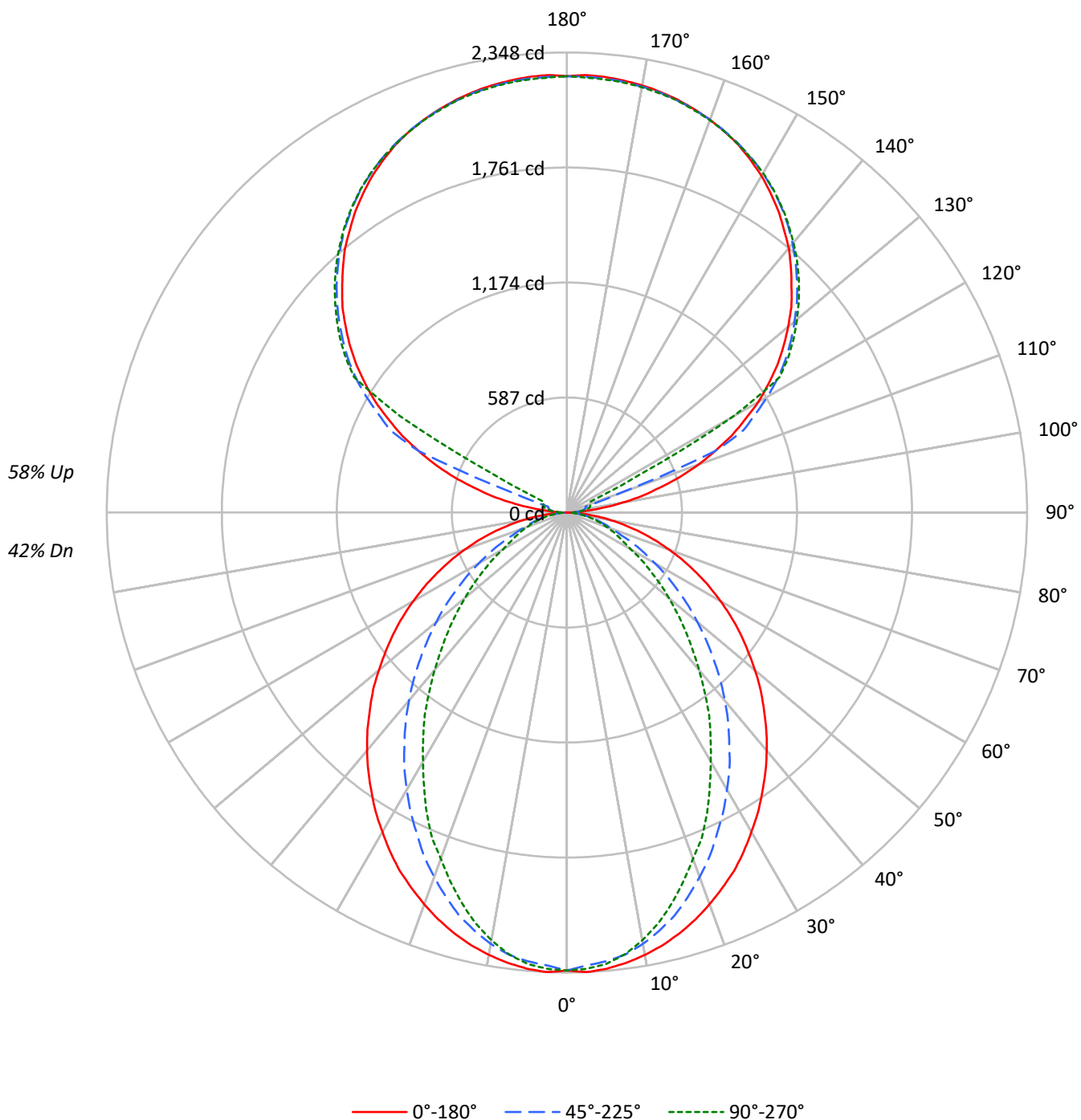
Lumens per Lamp: N/A
Luminaire Lumens: 11338.7 lumens
Efficiency: N/A
Efficacy: 102.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 110.6
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

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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	49	49	49
1	96	92	89	85	88	85	81	79	70	68	66	56	55	54	44	43	42
2	88	81	75	70	80	74	69	65	62	58	55	50	48	45	39	38	36
3	81	72	65	59	74	66	60	55	55	50	47	45	42	39	35	33	31
4	74	64	56	50	67	59	52	47	49	44	40	40	36	34	32	29	27
5	68	57	49	43	62	52	46	40	44	39	35	36	32	29	29	26	24
6	63	51	43	38	57	47	40	35	40	34	31	33	29	26	26	23	21
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	27	24	21	22	19	17
9	50	38	31	26	46	36	29	25	30	25	22	25	21	19	21	18	16
10	47	35	28	24	43	33	26	22	28	23	20	23	20	17	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2913	2913	2913
5°	2916	2864	2883
10°	2885	2805	2787
15°	2844	2710	2640
20°	2790	2580	2461
25°	2734	2435	2288
30°	2660	2286	2068
35°	2588	2126	1876
40°	2514	1961	1656
45°	2428	1778	1456
50°	2339	1594	1262
55°	2246	1397	1074
60°	2139	1192	882
65°	2015	984	792
70°	1865	789	714
75°	1676	690	646
80°	1402	571	553
85°	954	370	405

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2428 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.1	1.9
10°-20°	601.3	5.3
20°-30°	844.3	7.4
30°-40°	920.3	8.1
40°-50°	845.9	7.5
50°-60°	664.3	5.9
60°-70°	432.4	3.8
70°-80°	222.6	2.0
80°-90°	60.7	0.5
90°-100°	73.4	0.6
100°-110°	273.7	2.4
110°-120°	725.9	6.4
120°-130°	1204.0	10.6
130°-140°	1278.9	11.3
140°-150°	1188.6	10.5
150°-160°	955.6	8.4
160°-170°	615.8	5.4
170°-180°	211.9	1.9
0°-30°	1664.7	14.7
0°-40°	2585.0	22.8
0°-60°	4095.1	36.1
0°-90°	4810.9	42.4
90°-120°	1073.0	9.5
90°-150°	4744.6	41.8
90°-180°	6528.0	57.6
0°-180°	11338.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2337	2337	2337	2337	2337	
5°	2337	2327	2299	2318	2312	222
15°	2223	2200	2128	2088	2067	626
25°	2018	1950	1811	1724	1692	928
35°	1739	1631	1445	1312	1265	1088
45°	1421	1280	1058	907	857	1098
55°	1081	916	687	561	520	966
65°	730	558	368	296	290	724
75°	389	241	169	154	152	412
85°	91	46	40	40	40	104
90°	2	19	32	40	44	11
95°	105	52	63	71	69	124
105°	490	538	98	116	122	523
115°	926	954	994	248	132	912
125°	1310	1331	1362	1373	1378	1168
135°	1621	1647	1661	1677	1674	1252
145°	1880	1879	1906	1917	1909	1176
155°	2070	2056	2075	2085	2072	954
165°	2182	2172	2177	2188	2177	616
175°	2232	2220	2224	2235	2219	212
180°	2227	2227	2227	2227	2227	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2337.3	2337.3	2337.3	2337.3	2337.3
2.5°	2347.9	2337.3	2313.9	2335.2	2331.0
5°	2337.3	2326.8	2299.1	2318.3	2312.0
7.5°	2318.3	2305.6	2276.1	2284.3	2273.8
10°	2292.8	2278.0	2235.9	2229.4	2216.8
12.5°	2261.3	2242.1	2184.9	2172.4	2149.0
15°	2223.1	2199.7	2127.9	2087.7	2066.6
17.5°	2178.7	2144.8	2055.9	2009.4	1975.6
20°	2127.9	2085.5	1979.8	1927.0	1880.4
22.5°	2072.9	2024.2	1901.5	1829.7	1798.0
25°	2018.0	1950.2	1810.6	1724.0	1692.1
27.5°	1952.5	1880.4	1726.0	1626.5	1577.9
30°	1882.6	1802.0	1632.9	1525.1	1467.9
32.5°	1814.9	1717.5	1544.3	1417.2	1364.2
35°	1738.8	1630.9	1444.8	1311.5	1264.8
37.5°	1664.7	1548.2	1351.7	1205.6	1152.8
40°	1586.4	1459.6	1254.2	1104.1	1049.1
42.5°	1506.1	1370.7	1157.1	1000.4	947.7
45°	1421.4	1279.6	1057.7	907.3	856.6
47.5°	1341.1	1191.0	962.5	812.2	765.7
50°	1252.3	1102.1	869.4	723.3	679.1
52.5°	1165.4	1006.7	780.5	640.9	600.8
55°	1080.8	915.9	687.4	560.6	520.4
57.5°	994.2	824.9	605.0	486.5	452.6
60°	905.3	736.1	518.2	410.5	376.5
62.5°	818.7	649.5	444.1	342.7	325.8
65°	729.8	558.4	368.1	296.2	289.7
67.5°	645.2	473.7	296.2	260.1	253.8
70°	556.3	391.3	245.2	224.2	215.7
72.5°	471.7	315.1	205.1	188.3	184.0
75°	389.2	241.0	169.2	154.4	152.4
77.5°	306.8	171.3	133.3	124.8	120.6
80°	230.5	122.7	101.4	93.1	93.1
82.5°	160.7	82.6	69.7	65.5	65.5
85°	90.9	46.5	40.2	40.2	40.2
87.5°	33.9	16.9	16.9	14.8	14.8
90°	1.5	19.3	32.1	40.3	43.5
92.5°	40.3	33.8	38.6	41.9	43.5
95°	104.6	51.5	62.8	71.0	69.3
97.5°	188.4	56.5	82.1	87.1	88.6
100°	285.3	64.5	91.8	104.6	107.9
102.5°	391.4	388.4	95.1	112.7	117.6
105°	489.8	538.2	98.3	115.9	122.4
107.5°	604.2	644.4	101.6	119.2	125.7
110°	713.9	747.5	282.0	120.9	127.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	817.0	845.8	818.5	123.9	128.9
115°	926.4	953.8	994.1	248.2	132.2
117.5°	1021.5	1053.7	1081.2	850.6	428.6
120°	1127.8	1152.0	1181.1	1200.4	982.9
122.5°	1218.0	1243.8	1276.2	1285.7	1287.4
125°	1309.9	1330.9	1361.5	1372.8	1377.5
127.5°	1393.6	1416.2	1440.5	1456.6	1458.1
130°	1472.6	1498.5	1516.1	1533.9	1532.4
132.5°	1553.2	1574.2	1591.9	1606.4	1604.9
135°	1620.9	1646.7	1661.1	1677.3	1674.1
137.5°	1691.7	1711.1	1727.3	1743.4	1738.6
140°	1761.0	1774.0	1791.6	1806.1	1798.1
142.5°	1819.1	1830.4	1851.2	1864.1	1856.1
145°	1880.4	1878.7	1906.0	1917.3	1909.3
147.5°	1933.3	1928.6	1956.0	1964.0	1957.7
150°	1985.0	1973.8	1999.6	2009.1	2001.1
152.5°	2028.4	2015.6	2039.8	2049.5	2038.2
155°	2070.4	2056.0	2075.3	2084.9	2072.1
157.5°	2104.2	2091.4	2105.9	2117.2	2104.2
160°	2133.4	2123.5	2133.4	2142.9	2131.6
162.5°	2159.0	2149.4	2157.4	2168.7	2154.2
165°	2181.5	2172.0	2176.7	2188.0	2176.7
167.5°	2199.3	2189.5	2194.5	2205.8	2191.3
170°	2213.8	2204.1	2207.3	2218.7	2204.1
172.5°	2223.5	2213.8	2217.1	2228.4	2213.8
175°	2231.5	2220.2	2223.5	2234.7	2218.7
177.5°	2234.7	2223.5	2225.2	2236.5	2221.9
180°	2226.7	2226.7	2226.7	2226.7	2226.7

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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	10.06	10.83	11.08	11.86	13.24	6.04	6.81	7.06	7.84	9.21
	3H	11.72	12.41	12.76	13.45	14.85	7.21	7.90	8.25	8.94	10.34
	4H	12.32	12.98	13.37	14.02	15.42	7.66	8.31	8.71	9.35	10.76
	6H	12.73	13.33	13.79	14.38	15.80	7.97	8.57	9.03	9.62	11.03
	8H	12.85	13.43	13.92	14.49	15.90	8.06	8.63	9.12	9.69	11.10
	12H	12.91	13.45	13.98	14.51	15.94	8.10	8.64	9.16	9.69	11.13
4H	2H	10.07	10.72	11.12	11.76	13.17	6.62	7.27	7.67	8.31	9.72
	3H	11.88	12.43	12.94	13.49	14.91	7.96	8.50	9.02	9.57	10.99
	4H	12.56	13.06	13.63	14.12	15.56	8.50	9.00	9.57	10.06	11.50
	6H	13.07	13.49	14.14	14.58	16.01	8.91	9.33	9.99	10.42	11.85
	8H	13.24	13.64	14.31	14.71	16.16	9.03	9.43	10.11	10.51	11.96
	12H	13.32	13.68	14.42	14.77	16.23	9.09	9.45	10.19	10.54	12.00
8H	4H	12.53	12.93	13.60	14.00	15.45	8.77	9.17	9.85	10.24	11.69
	6H	13.08	13.41	14.18	14.53	15.97	9.28	9.61	10.38	10.72	12.17
	8H	13.29	13.58	14.40	14.68	16.15	9.46	9.75	10.57	10.85	12.32
	12H	13.42	13.67	14.53	14.77	16.27	9.57	9.83	10.68	10.92	12.43
12H	4H	12.48	12.84	13.57	13.92	15.38	8.77	9.13	9.86	10.22	11.67
	6H	13.06	13.34	14.16	14.44	15.91	9.32	9.61	10.43	10.71	12.18
	8H	13.27	13.52	14.38	14.62	16.12	9.53	9.78	10.64	10.87	12.38

END OF REPORT