

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: P905782

Luminaire Tested: DFN2DIP-PN3F0-060D080US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905782
REPORT IS A COMBINATION OF REPORTS P899588 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-060D080US835-RLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

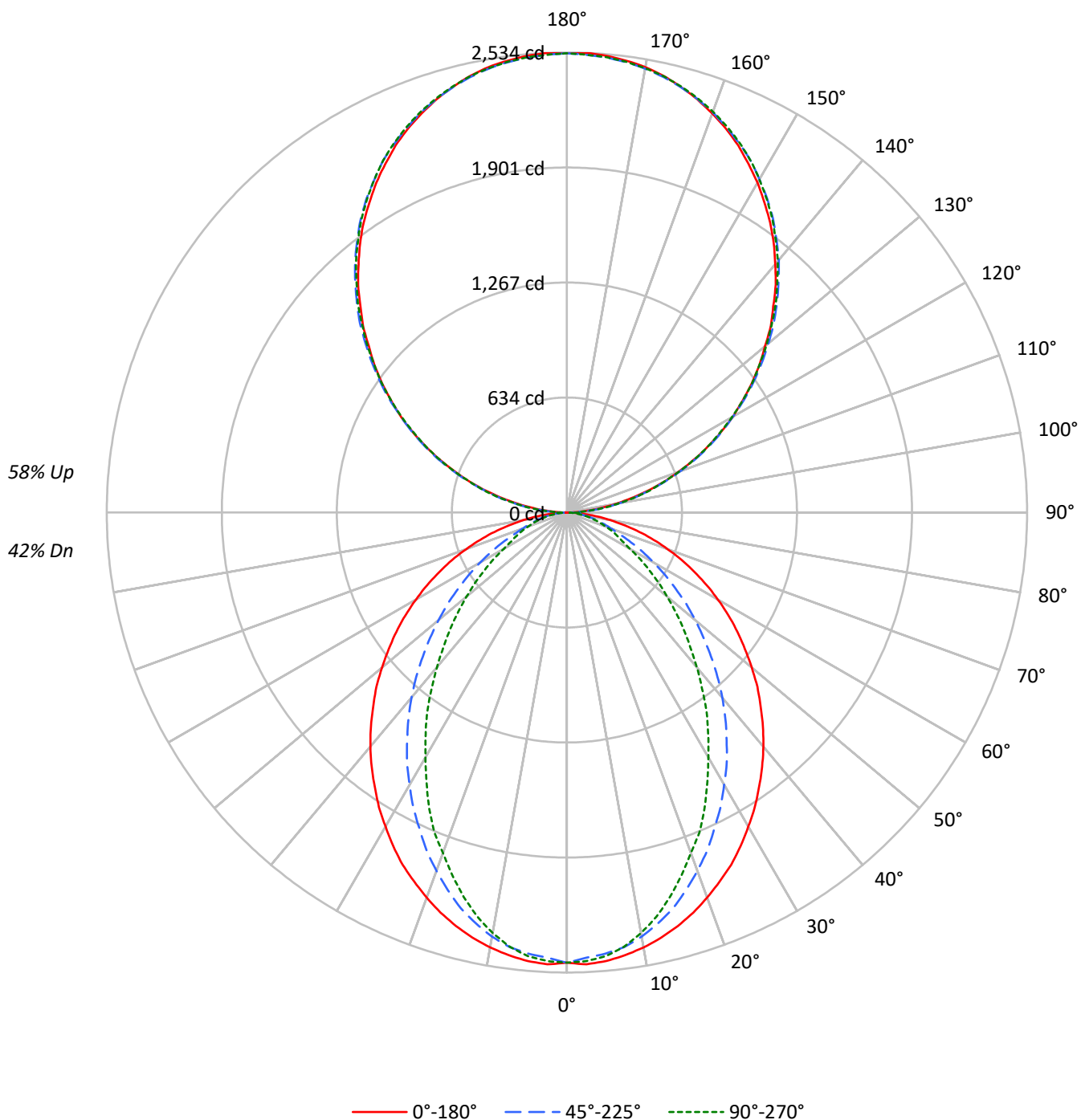
Lumens per Lamp: N/A
Luminaire Lumens: 12180.0 lumens
Efficiency: N/A
Efficacy: 102.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 118.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9821
Total Harmonic Distortion (THDi): 0.08
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P905782

CATALOG NUMBER: DFN2DIP-PN3F0-060D080US835-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P905782

CATALOG NUMBER: DFN2DIP-PN3F0-060D080US835-RLFL

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	63	63	63	49	49	49
1	96	92	89	85	88	84	81	78	70	67	65	56	55	53	44	43	42
2	88	81	75	70	80	74	69	65	61	58	55	50	47	45	39	37	36
3	81	72	65	59	73	66	60	55	55	50	47	44	41	39	35	33	31
4	74	64	56	50	67	58	52	47	49	44	40	40	36	33	31	29	27
5	68	57	49	43	62	52	45	40	44	39	35	36	32	29	28	26	24
6	63	51	43	38	57	47	40	35	40	34	30	33	29	26	26	23	21
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	24	21	19
8	54	42	34	29	49	39	32	28	33	28	24	27	23	21	22	19	17
9	50	38	31	26	46	36	29	25	30	25	22	25	21	19	20	18	16
10	47	35	28	24	43	33	26	22	28	23	19	23	19	17	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2899	2899	2899
5°	2902	2851	2870
10°	2871	2793	2775
15°	2830	2698	2630
20°	2776	2569	2452
25°	2721	2425	2280
30°	2647	2277	2062
35°	2575	2118	1871
40°	2501	1954	1652
45°	2416	1773	1453
50°	2327	1589	1260
55°	2234	1394	1073
60°	2127	1189	882
65°	2004	982	793
70°	1854	788	716
75°	1665	691	649
80°	1392	573	558
85°	946	373	412

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2508 cd/sqm

TEST NUMBER: P905782

CATALOG NUMBER: DFN2DIP-PN3F0-060D080US835-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	232.4	1.9
10°-20°	638.0	5.2
20°-30°	895.7	7.4
30°-40°	976.4	8.0
40°-50°	897.4	7.4
50°-60°	704.8	5.8
60°-70°	458.8	3.8
70°-80°	236.1	1.9
80°-90°	67.5	0.6
90°-100°	156.6	1.3
100°-110°	497.5	4.1
110°-120°	851.3	7.0
120°-130°	1119.6	9.2
130°-140°	1256.7	10.3
140°-150°	1232.3	10.1
150°-160°	1033.7	8.5
160°-170°	685.6	5.6
170°-180°	239.6	2.0
0°-30°	1766.2	14.5
0°-40°	2742.6	22.5
0°-60°	4344.8	35.7
0°-90°	5107.2	41.9
90°-120°	1505.3	12.4
90°-150°	5113.9	42.0
90°-180°	7073.0	58.1
0°-180°	12180.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2480	2480	2480	2480	2480	
5°	2480	2469	2439	2460	2453	235
15°	2359	2334	2258	2215	2193	665
25°	2141	2069	1921	1829	1795	985
35°	1845	1730	1533	1391	1342	1155
45°	1508	1358	1122	963	909	1165
55°	1147	972	729	595	552	1025
65°	774	592	390	314	307	768
75°	413	256	180	164	162	437
85°	96	49	43	43	43	111
90°	2	28	75	70	72	12
95°	111	133	136	136	133	124
105°	459	465	470	474	474	485
115°	854	866	863	860	854	845
125°	1242	1262	1256	1249	1246	1110
135°	1607	1631	1635	1633	1627	1242
145°	1951	1966	1979	1981	1972	1219
155°	2231	2237	2244	2255	2248	1027
165°	2427	2425	2425	2440	2429	685
175°	2526	2519	2515	2530	2517	240
180°	2530	2530	2530	2530	2530	

TEST NUMBER: P905782

CATALOG NUMBER: DFN2DIP-PN3F0-060D080US835-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2479.8	2479.8	2479.8	2479.8	2479.8
2.5°	2491.0	2479.8	2455.0	2477.6	2473.1
5°	2479.8	2468.6	2439.3	2459.6	2452.9
7.5°	2459.6	2446.2	2414.8	2423.6	2412.4
10°	2432.6	2416.9	2372.2	2365.3	2351.9
12.5°	2399.1	2378.8	2318.1	2304.8	2280.0
15°	2358.6	2333.8	2257.6	2215.0	2192.6
17.5°	2311.5	2275.5	2181.2	2131.9	2096.0
20°	2257.6	2212.6	2100.5	2044.5	1995.0
22.5°	2199.3	2147.6	2017.4	1941.2	1907.6
25°	2141.0	2069.1	1921.0	1829.1	1795.3
27.5°	2071.5	1995.0	1831.2	1725.7	1674.1
30°	1997.4	1911.9	1732.4	1618.1	1557.4
32.5°	1925.5	1822.2	1638.4	1503.6	1447.4
35°	1844.8	1730.3	1532.9	1391.4	1341.9
37.5°	1766.2	1642.6	1434.1	1279.1	1223.1
40°	1683.1	1548.6	1330.7	1171.4	1113.1
42.5°	1597.9	1454.3	1227.6	1061.4	1005.5
45°	1508.1	1357.6	1122.2	962.6	908.8
47.5°	1422.9	1263.6	1021.2	861.7	812.4
50°	1328.6	1169.3	922.4	767.4	720.5
52.5°	1236.4	1068.1	828.1	680.0	637.4
55°	1146.7	971.7	729.3	594.8	552.1
57.5°	1054.8	875.2	641.9	516.2	480.2
60°	960.5	781.0	549.8	435.5	399.5
62.5°	868.6	689.1	471.2	363.6	345.7
65°	774.3	592.4	390.5	314.3	307.4
67.5°	684.5	502.6	314.3	276.0	269.3
70°	590.2	415.2	260.2	237.9	228.8
72.5°	500.5	334.3	217.6	199.8	195.2
75°	412.9	255.7	179.5	163.8	161.7
77.5°	325.5	181.7	141.4	132.4	127.9
80°	244.5	130.2	107.6	98.8	98.8
82.5°	170.5	87.6	74.0	69.5	69.5
85°	96.4	49.3	42.6	42.6	42.6
87.5°	36.0	17.9	17.9	15.7	15.7
90°	2.3	27.5	74.8	70.2	72.5
92.5°	47.3	64.1	66.4	68.6	68.6
95°	111.4	132.7	136.5	136.5	132.7
97.5°	185.4	205.2	213.6	213.6	213.6
100°	270.8	288.3	294.4	294.4	292.1
102.5°	360.8	373.8	382.1	384.4	382.1
105°	459.2	465.3	469.9	473.7	473.7
107.5°	556.8	566.0	566.0	567.5	556.8
110°	651.4	663.6	663.6	663.6	657.5

TEST NUMBER: P905782

CATALOG NUMBER: DFN2DIP-PN3F0-060D080US835-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	753.6	766.6	764.3	758.2	753.6
115°	854.3	866.5	862.7	860.4	854.3
117.5°	954.2	971.0	960.3	954.2	948.1
120°	1054.9	1071.7	1054.9	1054.9	1048.0
122.5°	1146.4	1167.8	1157.1	1151.0	1146.4
125°	1242.5	1261.6	1255.5	1248.6	1246.4
127.5°	1336.4	1360.0	1351.6	1342.5	1336.4
130°	1424.1	1451.5	1447.7	1443.2	1434.8
132.5°	1522.5	1543.8	1545.4	1534.7	1528.6
135°	1607.1	1630.8	1635.4	1633.1	1627.0
137.5°	1701.7	1720.8	1724.6	1723.1	1713.9
140°	1784.9	1803.9	1814.6	1814.6	1806.2
142.5°	1870.3	1889.4	1895.5	1897.8	1889.4
145°	1951.2	1966.4	1978.6	1980.9	1972.5
147.5°	2023.6	2042.7	2051.8	2055.7	2047.3
150°	2098.4	2111.3	2119.7	2126.6	2119.7
152.5°	2164.7	2177.7	2188.4	2196.8	2188.4
155°	2231.1	2237.2	2244.1	2254.7	2247.9
157.5°	2288.3	2292.9	2296.7	2311.9	2301.3
160°	2339.4	2344.0	2346.3	2359.2	2350.1
162.5°	2386.7	2386.7	2389.0	2403.5	2392.8
165°	2427.1	2424.8	2424.8	2440.1	2429.4
167.5°	2463.7	2456.9	2456.9	2472.1	2461.4
170°	2491.2	2485.1	2482.8	2498.1	2485.1
172.5°	2510.3	2504.2	2501.9	2517.1	2504.2
175°	2525.5	2519.4	2514.8	2530.1	2517.1
177.5°	2533.9	2527.8	2523.2	2536.2	2523.2
180°	2530.1	2530.1	2530.1	2530.1	2530.1

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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	10.00	10.77	11.03	11.80	13.19	5.97	6.74	7.00	7.77	9.15
	3H	11.67	12.35	12.71	13.40	14.80	7.15	7.83	8.18	8.87	10.28
	4H	12.27	12.92	13.32	13.96	15.38	7.59	8.24	8.64	9.28	10.69
	6H	12.68	13.28	13.74	14.33	15.75	7.90	8.50	8.96	9.55	10.97
	8H	12.80	13.37	13.87	14.44	15.86	7.99	8.56	9.05	9.62	11.04
	12H	12.86	13.40	13.93	14.46	15.90	8.03	8.57	9.10	9.62	11.07
4H	2H	10.01	10.66	11.07	11.70	13.12	6.55	7.20	7.61	8.25	9.66
	3H	11.83	12.37	12.89	13.44	14.86	7.89	8.43	8.96	9.50	10.93
	4H	12.51	13.01	13.58	14.07	15.52	8.43	8.93	9.50	9.99	11.43
	6H	13.02	13.44	14.10	14.53	15.97	8.84	9.26	9.92	10.35	11.79
	8H	13.19	13.58	14.27	14.66	16.12	8.96	9.36	10.04	10.44	11.89
	12H	13.28	13.64	14.37	14.73	16.19	9.02	9.38	10.12	10.47	11.93
8H	4H	12.47	12.87	13.55	13.95	15.40	8.70	9.10	9.78	10.18	11.63
	6H	13.03	13.36	14.13	14.48	15.93	9.21	9.54	10.31	10.66	12.11
	8H	13.24	13.53	14.35	14.63	16.10	9.40	9.68	10.51	10.79	12.26
	12H	13.37	13.63	14.49	14.72	16.24	9.51	9.76	10.62	10.86	12.37
12H	4H	12.42	12.78	13.52	13.87	15.33	8.70	9.06	9.80	10.15	11.61
	6H	13.00	13.29	14.11	14.39	15.87	9.26	9.54	10.37	10.65	12.12
	8H	13.22	13.47	14.33	14.57	16.08	9.46	9.71	10.57	10.81	12.32

END OF REPORT