

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: P905356

Luminaire Tested: DFN2DIP-HX3F0-070D060US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905356
REPORT IS A COMBINATION OF REPORTS P899252 AND P896089
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX3F0-070D060US835-RLLFLL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

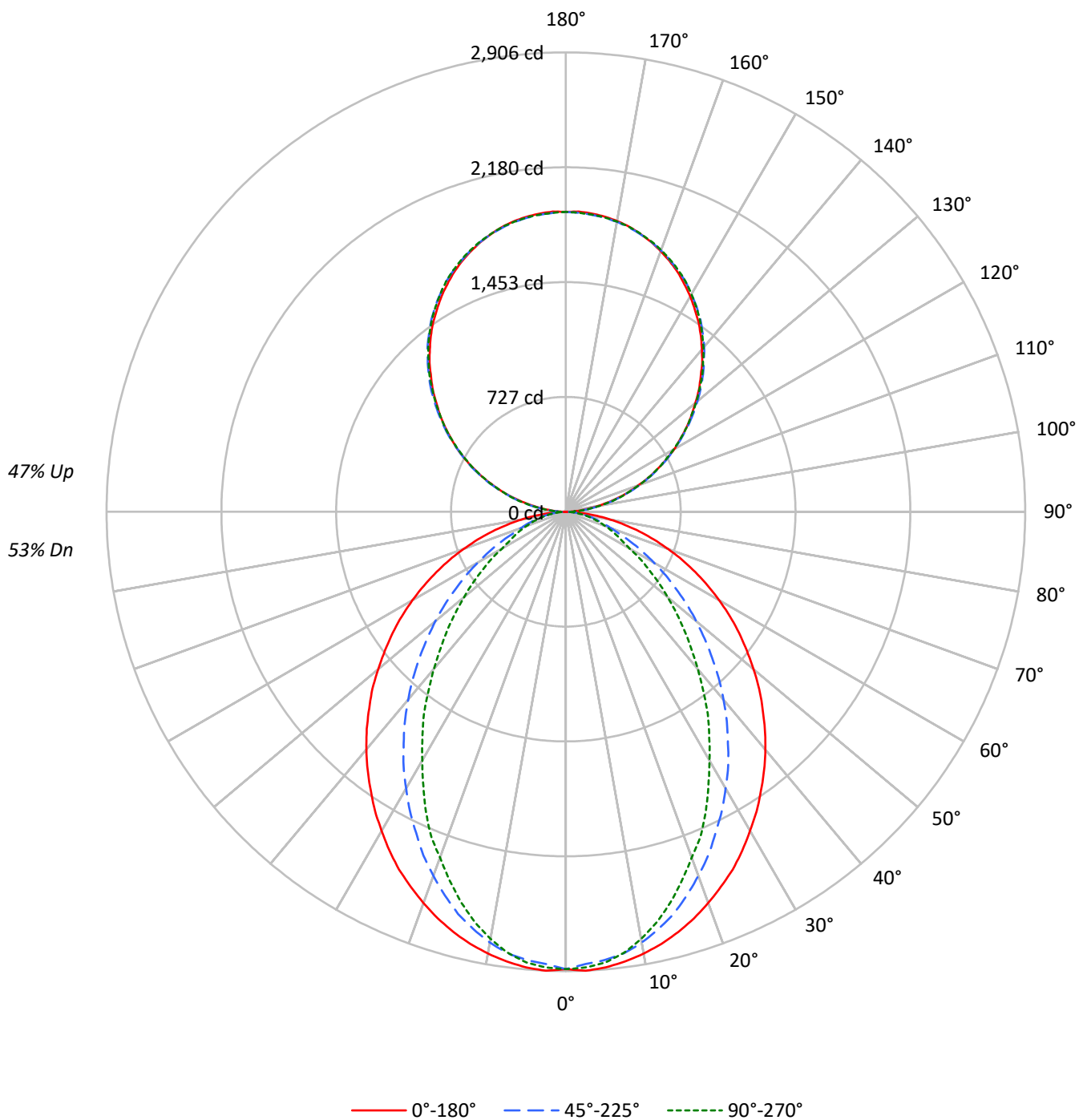
Lumens per Lamp: N/A
Luminaire Lumens: 11260.0 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.84' x L: 3.28' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 114.5
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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59
1	99	95	91	88	92	88	85	82	75	73	71	64	62	60	53	52	51
2	91	83	77	72	84	78	72	68	67	63	59	56	54	51	47	45	43
3	83	74	67	61	77	69	62	57	59	54	51	50	47	44	42	40	38
4	76	66	58	52	70	61	54	49	53	48	44	45	41	38	38	35	33
5	70	59	51	45	65	55	48	43	48	42	38	41	37	33	34	31	29
6	65	53	45	39	60	50	42	37	43	38	33	37	33	30	31	28	26
7	60	48	40	35	56	45	38	33	39	34	30	34	30	26	29	26	23
8	56	44	36	31	52	41	34	29	36	30	27	31	27	24	27	23	21
9	52	40	33	28	48	38	31	26	33	28	24	29	24	21	25	21	19
10	49	37	30	25	45	35	28	24	31	25	22	27	22	19	23	20	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3351	3351	3351
5°	3355	3296	3317
10°	3320	3229	3207
15°	3273	3120	3039
20°	3211	2971	2833
25°	3148	2804	2634
30°	3063	2633	2382
35°	2980	2449	2161
40°	2895	2259	1907
45°	2797	2049	1678
50°	2695	1837	1454
55°	2589	1611	1239
60°	2466	1375	1018
65°	2324	1135	914
70°	2152	912	824
75°	1935	799	746
80°	1622	663	641
85°	1108	431	471

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2797 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.1	2.4
10°-20°	744.3	6.6
20°-30°	1045.0	9.3
30°-40°	1139.2	10.1
40°-50°	1047.0	9.3
50°-60°	822.3	7.3
60°-70°	535.2	4.8
70°-80°	275.5	2.4
80°-90°	75.7	0.7
90°-100°	117.4	1.0
100°-110°	373.1	3.3
110°-120°	638.5	5.7
120°-130°	839.7	7.5
130°-140°	942.5	8.4
140°-150°	924.2	8.2
150°-160°	775.3	6.9
160°-170°	514.2	4.6
170°-180°	179.7	1.6
0°-30°	2060.5	18.3
0°-40°	3199.7	28.4
0°-60°	5068.9	45.0
0°-90°	5955.4	52.9
90°-120°	1129.0	10.0
90°-150°	3835.4	34.1
90°-180°	5305.0	47.1
0°-180°	11260.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2893	2893	2893	2893	2893	
5°	2893	2880	2846	2870	2862	274
15°	2752	2723	2634	2584	2558	775
25°	2498	2414	2241	2134	2094	1149
35°	2152	2019	1788	1623	1566	1347
45°	1760	1584	1309	1123	1060	1359
55°	1338	1134	851	694	644	1195
65°	903	691	456	367	359	896
75°	482	298	209	191	189	509
85°	112	58	50	50	50	129
90°	2	21	56	53	54	11
95°	84	100	102	102	100	93
105°	344	349	352	355	355	363
115°	641	650	647	645	641	634
125°	932	946	942	936	935	833
135°	1205	1223	1226	1225	1220	932
145°	1463	1475	1484	1486	1479	914
155°	1673	1678	1683	1691	1686	770
165°	1820	1819	1819	1830	1822	514
175°	1894	1890	1886	1898	1888	180
180°	1898	1898	1898	1898	1898	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2893.1	2893.1	2893.1	2893.1	2893.1
2.5°	2906.1	2893.1	2864.2	2890.6	2885.3
5°	2893.1	2880.0	2845.9	2869.5	2861.7
7.5°	2869.5	2853.9	2817.3	2827.5	2814.5
10°	2838.1	2819.8	2767.5	2759.5	2743.9
12.5°	2798.9	2775.3	2704.5	2688.9	2660.0
15°	2751.7	2722.8	2633.9	2584.2	2558.1
17.5°	2696.7	2654.8	2544.8	2487.2	2445.3
20°	2633.9	2581.4	2450.6	2385.3	2327.5
22.5°	2565.9	2505.6	2353.6	2264.7	2225.6
25°	2497.8	2413.9	2241.1	2133.9	2094.5
27.5°	2416.7	2327.5	2136.4	2013.4	1953.1
30°	2330.3	2230.6	2021.1	1887.8	1817.0
32.5°	2246.4	2125.9	1911.4	1754.2	1688.6
35°	2152.2	2018.6	1788.4	1623.4	1565.6
37.5°	2060.6	1916.4	1673.1	1492.2	1427.0
40°	1963.6	1806.7	1552.5	1366.7	1298.6
42.5°	1864.2	1696.7	1432.2	1238.3	1173.1
45°	1759.5	1583.9	1309.2	1123.1	1060.3
47.5°	1660.0	1474.2	1191.4	1005.3	947.8
50°	1550.0	1364.2	1076.1	895.3	840.6
52.5°	1442.5	1246.1	966.1	793.3	743.6
55°	1337.8	1133.6	850.8	693.9	644.2
57.5°	1230.6	1021.1	748.9	602.2	560.3
60°	1120.6	911.1	641.4	508.1	466.1
62.5°	1013.3	803.9	549.7	424.2	403.3
65°	903.3	691.1	455.6	366.7	358.6
67.5°	798.6	586.4	366.7	321.9	314.2
70°	688.6	484.4	303.6	277.5	266.9
72.5°	583.9	390.0	253.9	233.1	227.8
75°	481.7	298.3	209.4	191.1	188.6
77.5°	379.7	211.9	165.0	154.4	149.2
80°	285.3	151.9	125.6	115.3	115.3
82.5°	198.9	102.2	86.4	81.1	81.1
85°	112.5	57.5	49.7	49.7	49.7
87.5°	41.9	20.8	20.8	18.3	18.3
90°	1.7	20.6	56.1	52.6	54.3
92.5°	35.5	48.1	49.8	51.5	51.5
95°	83.5	99.5	102.4	102.4	99.5
97.5°	139.0	153.9	160.2	160.2	160.2
100°	203.1	216.2	220.8	220.8	219.1
102.5°	270.6	280.3	286.6	288.3	286.6
105°	344.4	349.0	352.4	355.3	355.3
107.5°	417.6	424.5	424.5	425.6	417.6
110°	488.6	497.7	497.7	497.7	493.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	565.2	574.9	573.2	568.6	565.2
115°	640.7	649.9	647.0	645.3	640.7
117.5°	715.7	728.3	720.2	715.7	711.1
120°	791.2	803.8	791.2	791.2	786.0
122.5°	859.8	875.8	867.8	863.3	859.8
125°	931.9	946.2	941.6	936.5	934.8
127.5°	1002.3	1020.0	1013.7	1006.9	1002.3
130°	1068.1	1088.7	1085.8	1082.4	1076.1
132.5°	1141.9	1157.9	1159.0	1151.0	1146.4
135°	1205.4	1223.1	1226.5	1224.8	1220.2
137.5°	1276.3	1290.6	1293.5	1292.3	1285.5
140°	1338.7	1353.0	1361.0	1361.0	1354.7
142.5°	1402.7	1417.0	1421.6	1423.3	1417.0
145°	1463.4	1474.8	1484.0	1485.7	1479.4
147.5°	1517.7	1532.0	1538.9	1541.7	1535.4
150°	1573.8	1583.5	1589.8	1594.9	1589.8
152.5°	1623.5	1633.3	1641.3	1647.6	1641.3
155°	1673.3	1677.9	1683.0	1691.1	1685.9
157.5°	1716.2	1719.7	1722.5	1734.0	1726.0
160°	1754.6	1758.0	1759.7	1769.4	1762.6
162.5°	1790.0	1790.0	1791.7	1802.6	1794.6
165°	1820.3	1818.6	1818.6	1830.1	1822.1
167.5°	1847.8	1842.7	1842.7	1854.1	1846.1
170°	1868.4	1863.8	1862.1	1873.5	1863.8
172.5°	1882.7	1878.1	1876.4	1887.8	1878.1
175°	1894.1	1889.6	1886.1	1897.6	1887.8
177.5°	1900.4	1895.9	1892.4	1902.1	1892.4
180°	1897.6	1897.6	1897.6	1897.6	1897.6

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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	11.57	12.42	12.51	13.38	14.61	7.55	8.40	8.48	9.35	10.58
	3H	13.24	14.01	14.19	14.97	16.22	8.73	9.50	9.68	10.46	11.71
	4H	13.85	14.57	14.81	15.53	16.80	9.18	9.90	10.15	10.87	12.13
	6H	14.26	14.93	15.24	15.90	17.17	9.50	10.16	10.47	11.13	12.41
	8H	14.39	15.02	15.37	16.00	17.28	9.59	10.22	10.57	11.21	12.48
	12H	14.45	15.05	15.43	16.03	17.33	9.63	10.23	10.62	11.21	12.51
4H	2H	11.59	12.31	12.56	13.28	14.54	8.14	8.86	9.11	9.83	11.09
	3H	13.41	14.01	14.39	15.01	16.29	9.49	10.09	10.47	11.08	12.36
	4H	14.10	14.65	15.09	15.64	16.94	10.03	10.58	11.02	11.57	12.87
	6H	14.61	15.08	15.61	16.09	17.39	10.45	10.92	11.45	11.93	13.23
	8H	14.78	15.22	15.78	16.22	17.54	10.57	11.01	11.58	12.02	13.33
	12H	14.87	15.27	15.89	16.29	17.61	10.64	11.03	11.66	12.06	13.37
8H	4H	14.07	14.51	15.07	15.51	16.83	10.31	10.75	11.31	11.75	13.07
	6H	14.63	14.99	15.65	16.04	17.35	10.82	11.19	11.85	12.23	13.54
	8H	14.84	15.16	15.87	16.19	17.52	11.01	11.33	12.04	12.36	13.69
	12H	14.97	15.25	16.01	16.28	17.66	11.13	11.41	12.16	12.43	13.81
12H	4H	14.02	14.42	15.04	15.44	16.76	10.31	10.71	11.33	11.73	13.05
	6H	14.60	14.92	15.64	15.95	17.29	10.87	11.19	11.90	12.22	13.55
	8H	14.82	15.10	15.85	16.13	17.50	11.08	11.36	12.11	12.39	13.76