

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: P919411

Luminaire Tested: DFN2DIP-PN3F0-060D050US935-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P919411
REPORT IS A COMBINATION OF REPORTS P901066 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-060D050US935-RLLONL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

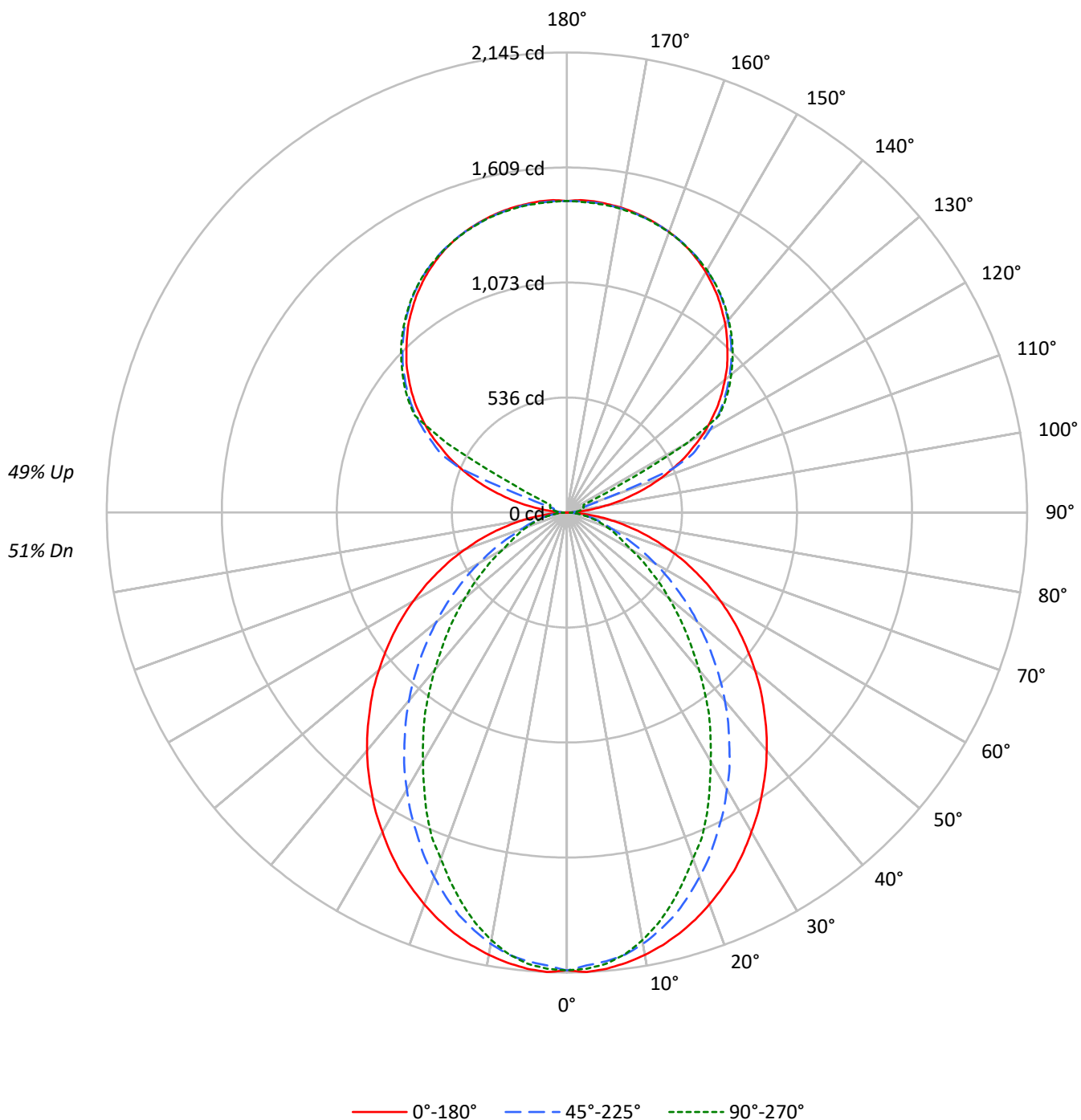
Lumens per Lamp: N/A
Luminaire Lumens: 8653.0 lumens
Efficiency: N/A
Efficacy: 91.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 94.7
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

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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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57
1	98	94	91	87	91	87	84	81	74	72	70	62	61	59	51	50	49
2	90	83	77	72	83	77	72	67	66	62	59	55	52	50	45	44	42
3	82	73	66	61	76	68	62	57	58	54	50	49	46	43	41	38	36
4	76	65	58	52	70	61	54	49	52	47	43	44	40	37	37	34	32
5	70	58	50	45	64	54	47	42	47	41	37	40	36	33	33	30	28
6	64	53	45	39	59	49	42	37	42	37	33	36	32	29	30	27	25
7	60	48	40	34	55	45	38	33	39	33	29	33	29	26	28	25	22
8	55	43	36	31	51	41	34	29	35	30	26	30	26	23	26	23	20
9	52	40	32	27	48	37	31	26	32	27	23	28	24	21	24	21	18
10	48	36	29	25	45	34	28	24	30	25	21	26	22	19	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2496	2496	2496
5°	2498	2454	2471
10°	2472	2405	2389
15°	2437	2323	2264
20°	2390	2212	2111
25°	2343	2088	1963
30°	2279	1961	1775
35°	2217	1824	1611
40°	2153	1683	1422
45°	2080	1526	1251
50°	2004	1368	1084
55°	1924	1200	924
60°	1832	1024	760
65°	1725	845	683
70°	1596	679	616
75°	1434	594	558
80°	1199	493	481
85°	814	321	355

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2080 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.1	2.3
10°-20°	549.3	6.3
20°-30°	771.2	8.9
30°-40°	840.7	9.7
40°-50°	772.7	8.9
50°-60°	606.8	7.0
60°-70°	395.0	4.6
70°-80°	203.3	2.3
80°-90°	54.4	0.6
90°-100°	47.9	0.6
100°-110°	178.6	2.1
110°-120°	473.7	5.5
120°-130°	785.6	9.1
130°-140°	834.5	9.6
140°-150°	775.6	9.0
150°-160°	623.5	7.2
160°-170°	401.8	4.6
170°-180°	138.3	1.6
0°-30°	1520.7	17.6
0°-40°	2361.4	27.3
0°-60°	3740.9	43.2
0°-90°	4393.6	50.8
90°-120°	700.2	8.1
90°-150°	3095.8	35.8
90°-180°	4259.0	49.2
0°-180°	8653.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2135	2135	2135	2135	2135	
5°	2135	2126	2100	2118	2112	202
15°	2031	2009	1944	1907	1888	572
25°	1843	1782	1654	1575	1546	848
35°	1588	1490	1320	1198	1155	994
45°	1298	1169	966	829	782	1003
55°	987	837	628	512	475	882
65°	667	510	336	271	265	661
75°	356	220	154	141	139	376
85°	83	42	37	37	37	95
90°	1	13	21	26	28	8
95°	68	34	41	46	45	81
105°	320	351	64	76	80	342
115°	604	622	649	162	86	595
125°	855	868	888	896	899	762
135°	1058	1074	1084	1094	1092	817
145°	1227	1226	1244	1251	1246	767
155°	1351	1342	1354	1360	1352	622
165°	1423	1417	1420	1428	1420	402
175°	1456	1449	1451	1458	1448	139
180°	1453	1453	1453	1453	1453	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2135.1	2135.1	2135.1	2135.1	2135.1
2.5°	2144.7	2135.1	2113.7	2133.2	2129.3
5°	2135.1	2125.5	2100.2	2117.7	2111.9
7.5°	2117.7	2106.2	2079.1	2086.7	2077.1
10°	2094.5	2080.9	2042.5	2036.5	2025.0
12.5°	2065.6	2048.1	1995.9	1984.4	1963.1
15°	2030.7	2009.4	1943.8	1907.1	1887.8
17.5°	1990.2	1959.2	1878.0	1835.6	1804.7
20°	1943.8	1905.0	1808.5	1760.3	1717.7
22.5°	1893.6	1849.1	1737.0	1671.4	1642.4
25°	1843.4	1781.5	1654.0	1574.9	1545.7
27.5°	1783.6	1717.7	1576.7	1485.8	1441.4
30°	1719.8	1646.1	1491.6	1393.2	1340.9
32.5°	1657.9	1568.9	1410.7	1294.6	1246.2
35°	1588.4	1489.8	1319.8	1198.0	1155.4
37.5°	1520.7	1414.3	1234.8	1101.3	1053.1
40°	1449.1	1333.3	1145.7	1008.6	958.4
42.5°	1375.8	1252.1	1057.0	913.9	865.7
45°	1298.5	1168.9	966.2	828.8	782.5
47.5°	1225.1	1088.0	879.3	741.9	699.5
50°	1143.9	1006.8	794.2	660.7	620.3
52.5°	1064.5	919.6	713.0	585.5	548.8
55°	987.3	836.6	627.9	512.1	475.4
57.5°	908.2	753.5	552.7	444.4	413.5
60°	827.0	672.4	473.4	375.0	344.0
62.5°	747.9	593.3	405.7	313.1	297.6
65°	666.7	510.1	336.2	270.6	264.7
67.5°	589.4	432.7	270.6	237.6	231.9
70°	508.2	357.5	224.0	204.8	197.0
72.5°	430.9	287.8	187.4	172.0	168.1
75°	355.5	220.2	154.5	141.0	139.2
77.5°	280.3	156.4	121.7	114.0	110.1
80°	210.5	112.1	92.6	85.1	85.1
82.5°	146.8	75.4	63.7	59.8	59.8
85°	83.0	42.4	36.7	36.7	36.7
87.5°	31.0	15.4	15.4	13.5	13.5
90°	1.0	12.6	21.0	26.3	28.3
92.5°	26.3	22.1	25.2	27.4	28.3
95°	68.3	33.6	41.0	46.3	45.2
97.5°	123.0	36.9	53.6	56.8	57.8
100°	186.1	42.1	59.9	68.3	70.4
102.5°	255.5	253.4	62.1	73.5	76.8
105°	319.6	351.2	64.1	75.7	79.9
107.5°	394.3	420.4	66.3	77.7	82.1
110°	465.8	487.8	184.0	78.9	83.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	533.0	551.9	534.1	80.9	84.1
115°	604.5	622.3	648.7	162.0	86.3
117.5°	666.5	687.5	705.5	555.0	279.7
120°	735.9	751.7	770.6	783.2	641.3
122.5°	794.7	811.6	832.7	839.0	840.1
125°	854.6	868.4	888.4	895.7	898.9
127.5°	909.3	924.0	940.0	950.4	951.4
130°	960.9	977.7	989.2	1000.8	999.9
132.5°	1013.5	1027.2	1038.6	1048.2	1047.1
135°	1057.6	1074.5	1083.8	1094.5	1092.3
137.5°	1103.8	1116.5	1127.0	1137.6	1134.5
140°	1149.0	1157.5	1169.0	1178.4	1173.3
142.5°	1187.0	1194.4	1208.0	1216.3	1211.1
145°	1226.9	1225.8	1243.6	1251.0	1245.8
147.5°	1261.5	1258.3	1276.3	1281.5	1277.4
150°	1295.2	1287.9	1304.7	1311.0	1305.7
152.5°	1323.5	1315.2	1330.9	1337.3	1329.9
155°	1350.9	1341.5	1354.1	1360.4	1352.0
157.5°	1372.9	1364.6	1374.1	1381.5	1372.9
160°	1392.0	1385.6	1392.0	1398.2	1390.9
162.5°	1408.7	1402.5	1407.6	1415.0	1405.6
165°	1423.4	1417.2	1420.3	1427.6	1420.3
167.5°	1435.0	1428.7	1431.9	1439.2	1429.8
170°	1444.5	1438.1	1440.3	1447.6	1438.1
172.5°	1450.8	1444.5	1446.6	1454.0	1444.5
175°	1456.0	1448.6	1450.8	1458.1	1447.6
177.5°	1458.1	1450.8	1451.9	1459.2	1449.7
180°	1452.8	1452.8	1452.8	1452.8	1452.8

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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	10.36	11.19	11.32	12.16	13.43	6.32	7.16	7.28	8.13	9.39
	3H	12.03	12.78	13.00	13.76	15.04	7.51	8.26	8.48	9.23	10.52
	4H	12.63	13.34	13.62	14.32	15.62	7.95	8.66	8.94	9.64	10.94
	6H	13.05	13.70	14.05	14.69	16.00	8.27	8.92	9.26	9.91	11.21
	8H	13.18	13.79	14.18	14.80	16.10	8.36	8.98	9.36	9.98	11.28
	12H	13.24	13.82	14.24	14.82	16.15	8.40	8.99	9.40	9.98	11.31
4H	2H	10.38	11.08	11.36	12.06	13.36	6.92	7.62	7.91	8.61	9.90
	3H	12.20	12.79	13.20	13.80	15.10	8.26	8.85	9.26	9.86	11.17
	4H	12.89	13.42	13.89	14.43	15.76	8.80	9.34	9.81	10.34	11.68
	6H	13.40	13.86	14.41	14.88	16.21	9.22	9.68	10.23	10.71	12.03
	8H	13.57	14.00	14.59	15.02	16.36	9.34	9.77	10.36	10.79	12.14
	12H	13.66	14.05	14.70	15.08	16.43	9.40	9.79	10.44	10.83	12.18
8H	4H	12.85	13.28	13.87	14.30	15.65	9.08	9.51	10.10	10.53	11.87
	6H	13.41	13.77	14.45	14.83	16.17	9.59	9.95	10.63	11.01	12.35
	8H	13.62	13.94	14.67	14.99	16.34	9.78	10.09	10.83	11.14	12.50
	12H	13.76	14.03	14.81	15.08	16.48	9.89	10.17	10.94	11.21	12.61
12H	4H	12.80	13.19	13.84	14.23	15.58	9.09	9.47	10.12	10.51	11.86
	6H	13.39	13.70	14.44	14.75	16.11	9.64	9.95	10.69	11.00	12.36
	8H	13.60	13.88	14.66	14.92	16.32	9.84	10.12	10.90	11.16	12.56

END OF REPORT