

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: P913855

Luminaire Tested: DFN2DIP-PN2F0-060D050US927-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913855
REPORT IS A COMBINATION OF REPORTS P901020 AND P897905
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-060D050US927-RLLONL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

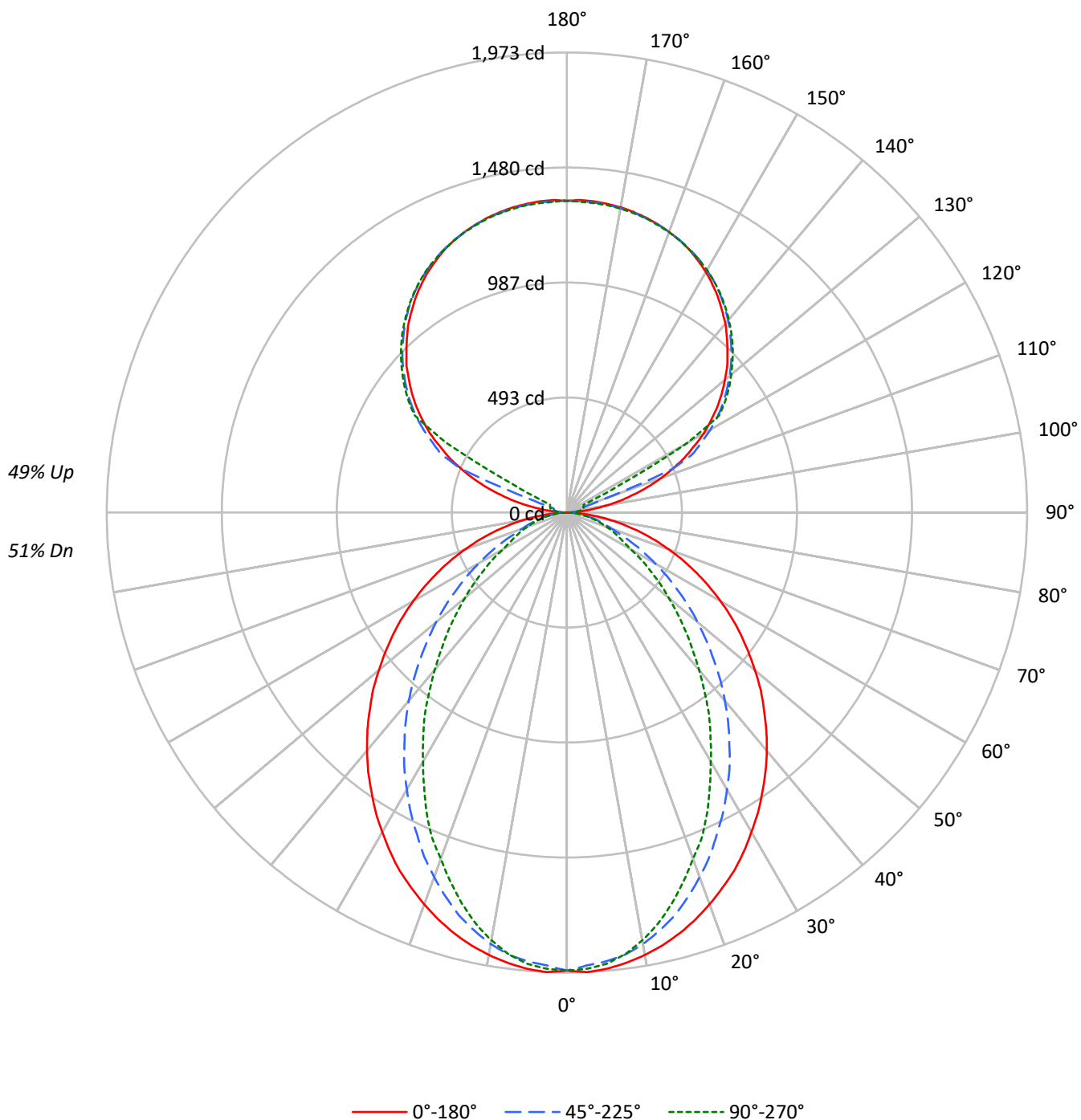
Lumens per Lamp: N/A
Luminaire Lumens: 7961.4 lumens
Efficiency: N/A
Efficacy: 75.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 105.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
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°	4255	4255	4255
5°	4255	4178	4208
10°	4206	4087	4065
15°	4141	3943	3847
20°	4057	3749	3583
25°	3972	3532	3327
30°	3860	3311	3006
35°	3749	3074	2723
40°	3636	2830	2401
45°	3506	2561	2108
50°	3371	2289	1823
55°	3228	2000	1550
60°	3064	1700	1270
65°	2874	1395	1136
70°	2643	1111	1019
75°	2353	962	915
80°	1936	781	775
85°	1266	485	549

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3506 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.1	2.3
10°-20°	505.4	6.3
20°-30°	709.6	8.9
30°-40°	773.5	9.7
40°-50°	710.9	8.9
50°-60°	558.3	7.0
60°-70°	363.4	4.6
70°-80°	187.1	2.3
80°-90°	50.1	0.6
90°-100°	44.1	0.6
100°-110°	164.3	2.1
110°-120°	435.8	5.5
120°-130°	722.8	9.1
130°-140°	767.8	9.6
140°-150°	713.6	9.0
150°-160°	573.7	7.2
160°-170°	369.7	4.6
170°-180°	127.2	1.6
0°-30°	1399.1	17.6
0°-40°	2172.6	27.3
0°-60°	3441.9	43.2
0°-90°	4042.5	50.8
90°-120°	644.2	8.1
90°-150°	2848.4	35.8
90°-180°	3919.0	49.2
0°-180°	7961.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1964	1964	1964	1964	1964	
5°	1964	1956	1932	1948	1943	186
15°	1868	1849	1788	1755	1737	527
25°	1696	1639	1522	1449	1422	780
35°	1461	1371	1214	1102	1063	915
45°	1195	1076	889	763	720	923
55°	908	770	578	471	437	812
65°	613	469	309	249	244	608
75°	327	203	142	130	128	346
85°	76	39	34	34	34	88
90°	1	12	19	24	26	7
95°	63	31	38	43	42	74
105°	294	323	59	70	74	314
115°	556	573	597	149	79	548
125°	786	799	817	824	827	701
135°	973	989	997	1007	1005	752
145°	1129	1128	1144	1151	1146	706
155°	1243	1234	1246	1252	1244	573
165°	1310	1304	1307	1314	1307	370
175°	1340	1333	1335	1342	1332	127
180°	1337	1337	1337	1337	1337	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1964.5	1964.5	1964.5	1964.5	1964.5
2.5°	1973.3	1964.5	1944.8	1962.7	1959.1
5°	1964.5	1955.6	1932.4	1948.4	1943.1
7.5°	1948.4	1937.8	1913.0	1919.9	1911.1
10°	1927.1	1914.6	1879.2	1873.7	1863.1
12.5°	1900.5	1884.4	1836.4	1825.8	1806.2
15°	1868.4	1848.8	1788.4	1754.7	1736.9
17.5°	1831.1	1802.6	1727.9	1688.9	1660.4
20°	1788.4	1752.8	1664.0	1619.6	1580.4
22.5°	1742.2	1701.3	1598.1	1537.8	1511.2
25°	1696.1	1639.1	1521.8	1449.0	1422.2
27.5°	1641.0	1580.4	1450.6	1367.1	1326.2
30°	1582.3	1514.6	1372.4	1281.8	1233.7
32.5°	1525.3	1443.5	1297.9	1191.1	1146.6
35°	1461.4	1370.7	1214.3	1102.2	1063.0
37.5°	1399.2	1301.2	1136.1	1013.3	968.9
40°	1333.3	1226.8	1054.2	928.0	881.8
42.5°	1265.8	1152.1	972.5	840.8	796.5
45°	1194.7	1075.5	889.0	762.6	719.9
47.5°	1127.2	1001.0	809.0	682.6	643.6
50°	1052.5	926.3	730.7	607.9	570.8
52.5°	979.5	846.1	656.0	538.7	504.9
55°	908.4	769.8	577.7	471.2	437.4
57.5°	835.6	693.3	508.5	408.9	380.4
60°	760.9	618.7	435.5	345.0	316.5
62.5°	688.1	545.9	373.3	288.0	273.9
65°	613.4	469.3	309.3	249.0	243.5
67.5°	542.2	398.2	249.0	218.6	213.3
70°	467.5	328.9	206.1	188.5	181.3
72.5°	396.5	264.8	172.4	158.3	154.6
75°	327.1	202.6	142.2	129.8	128.1
77.5°	257.9	143.9	112.0	104.9	101.3
80°	193.7	103.1	85.2	78.3	78.3
82.5°	135.1	69.4	58.6	55.1	55.1
85°	76.4	39.1	33.7	33.7	33.7
87.5°	28.5	14.2	14.2	12.4	12.4
90°	1.0	11.6	19.3	24.2	26.1
92.5°	24.2	20.4	23.2	25.2	26.1
95°	62.8	30.9	37.7	42.6	41.6
97.5°	113.1	33.9	49.3	52.3	53.2
100°	171.3	38.7	55.1	62.8	64.8
102.5°	235.0	233.1	57.1	67.7	70.7
105°	294.1	323.1	59.0	69.6	73.5
107.5°	362.7	386.8	61.0	71.5	75.5
110°	428.6	448.8	169.3	72.6	76.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	490.4	507.8	491.4	74.5	77.4
115°	556.2	572.6	596.8	149.0	79.4
117.5°	613.2	632.6	649.1	510.6	257.3
120°	677.1	691.6	709.0	720.6	590.0
122.5°	731.2	746.7	766.1	771.9	772.9
125°	786.3	799.0	817.4	824.1	827.0
127.5°	836.6	850.2	864.8	874.4	875.4
130°	884.1	899.6	910.1	920.8	920.0
132.5°	932.5	945.1	955.6	964.4	963.5
135°	973.1	988.6	997.2	1007.0	1005.0
137.5°	1015.6	1027.2	1037.0	1046.6	1043.8
140°	1057.2	1065.0	1075.5	1084.3	1079.5
142.5°	1092.1	1098.9	1111.4	1119.1	1114.3
145°	1128.9	1127.8	1144.2	1151.0	1146.2
147.5°	1160.7	1157.8	1174.3	1179.1	1175.3
150°	1191.7	1184.9	1200.4	1206.2	1201.3
152.5°	1217.7	1210.1	1224.6	1230.4	1223.6
155°	1242.9	1234.3	1245.9	1251.6	1244.0
157.5°	1263.2	1255.5	1264.2	1271.1	1263.2
160°	1280.7	1274.9	1280.7	1286.4	1279.7
162.5°	1296.1	1290.4	1295.1	1301.9	1293.2
165°	1309.6	1303.9	1306.8	1313.5	1306.8
167.5°	1320.3	1314.5	1317.5	1324.2	1315.5
170°	1329.0	1323.2	1325.2	1331.9	1323.2
172.5°	1334.8	1329.0	1331.0	1337.8	1329.0
175°	1339.7	1332.8	1334.8	1341.6	1331.9
177.5°	1341.6	1334.8	1335.9	1342.6	1333.9
180°	1336.7	1336.7	1336.7	1336.7	1336.7

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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	12.13	12.97	13.09	13.94	15.20	8.10	8.94	9.06	9.91	11.17
	3H	13.79	14.54	14.76	15.52	16.80	9.27	10.02	10.24	11.00	12.28
	4H	14.39	15.09	15.37	16.07	17.37	9.71	10.42	10.70	11.40	12.70
	6H	14.79	15.44	15.78	16.43	17.74	10.02	10.67	11.01	11.66	12.96
	8H	14.91	15.53	15.91	16.53	17.83	10.10	10.72	11.10	11.72	13.03
	12H	14.96	15.55	15.97	16.55	17.88	10.14	10.73	11.14	11.72	13.05
4H	2H	12.15	12.86	13.14	13.84	15.13	8.69	9.39	9.67	10.37	11.67
	3H	13.95	14.54	14.95	15.55	16.86	10.02	10.61	11.02	11.62	12.92
	4H	14.63	15.17	15.64	16.17	17.50	10.55	11.09	11.56	12.09	13.42
	6H	15.13	15.59	16.14	16.62	17.94	10.95	11.41	11.97	12.44	13.77
	8H	15.29	15.72	16.31	16.74	18.08	11.07	11.50	12.09	12.52	13.87
	12H	15.38	15.76	16.41	16.80	18.15	11.13	11.52	12.16	12.55	13.90
8H	4H	14.60	15.03	15.61	16.05	17.39	10.82	11.25	11.84	12.27	13.61
	6H	15.14	15.49	16.18	16.56	17.90	11.32	11.67	12.36	12.73	14.07
	8H	15.34	15.65	16.39	16.70	18.06	11.49	11.81	12.54	12.85	14.21
	12H	15.47	15.74	16.52	16.78	18.19	11.60	11.87	12.65	12.92	14.32
12H	4H	14.55	14.93	15.58	15.97	17.32	10.82	11.21	11.86	12.25	13.59
	6H	15.11	15.43	16.16	16.47	17.83	11.36	11.67	12.41	12.72	14.08
	8H	15.32	15.59	16.37	16.64	18.04	11.56	11.83	12.61	12.87	14.28