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: P919395

Luminaire Tested: DFN2DIP-PN3F0-050D080US935-RLLONL

Issue Date: 11/21/2024

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Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P919395
	REPORT IS A COMBINATION OF REPORTS P901106 AND P897955
Test Lab:	INNOVATION CENTER
Issue Date:	11/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	NEO-RAY
Catalog Number:	DFN2DIP-PN3F0-050D080US935-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:	10478.4 lumens
Efficiency:	N/A
Efficacy:	98.5 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:	Semi-Indirect

Input Watts (W):	106.4
Input Voltage (V):	
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.9613
Total Harmonic Distortion (THDi):	0.083
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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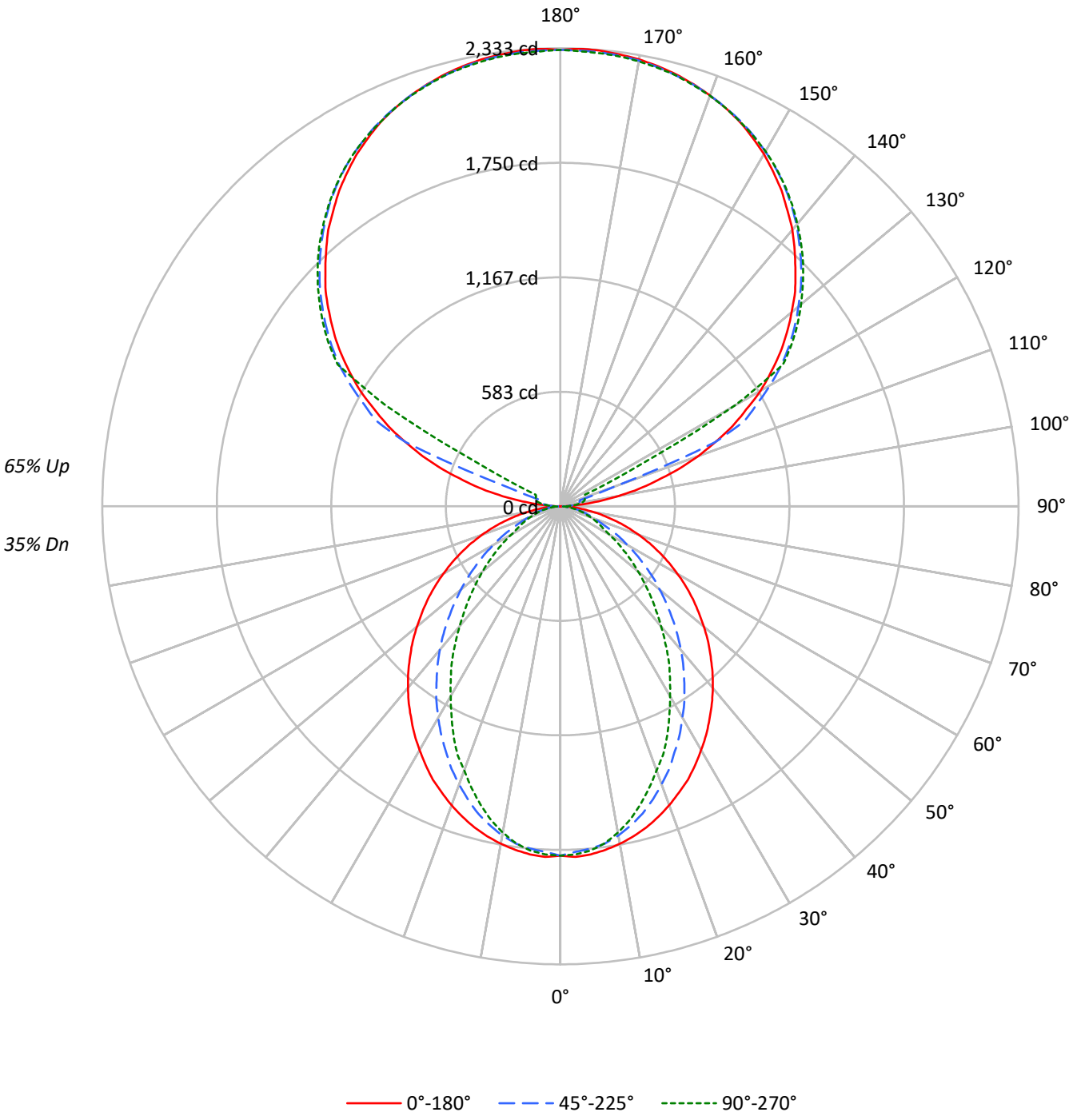
Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20			20			20			20
RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	104	104	104	104	94	94	94	94	75	75	75	58	58	58	42	42	42	35
1	95	91	87	84	86	82	79	76	66	64	62	51	50	49	38	37	36	30
2	87	80	74	69	78	72	67	63	58	55	52	46	43	41	34	32	31	26
3	79	70	63	58	71	64	58	53	52	47	44	41	38	35	30	28	27	22
4	72	62	55	49	65	57	50	45	46	41	38	36	33	30	27	25	23	19
5	67	56	48	42	60	51	44	39	41	36	33	33	29	27	25	22	21	17
6	61	50	42	37	55	45	39	34	37	32	29	30	26	23	22	20	18	15
7	57	45	37	32	51	41	34	30	34	29	25	27	23	21	21	18	16	14
8	53	41	33	28	48	37	31	26	31	26	22	25	21	19	19	17	15	12
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	18	15	13	11
10	46	34	27	23	41	31	25	21	26	21	18	21	18	15	16	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2080	2080	2080
5°	2082	2045	2059
10°	2060	2004	1991
15°	2031	1936	1887
20°	1992	1844	1759
25°	1952	1740	1636
30°	1899	1634	1479
35°	1847	1520	1342
40°	1794	1402	1185
45°	1733	1272	1043
50°	1670	1140	904
55°	1603	1000	770
60°	1526	853	633
65°	1437	705	569
70°	1330	566	514
75°	1195	496	465
80°	999	411	401
85°	679	268	296

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1733 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.8	1.6
10°-20°	457.8	4.4
20°-30°	642.7	6.1
30°-40°	700.6	6.7
40°-50°	643.9	6.1
50°-60°	505.7	4.8
60°-70°	329.2	3.1
70°-80°	169.5	1.6
80°-90°	47.4	0.5
90°-100°	76.7	0.7
100°-110°	285.7	2.7
110°-120°	757.9	7.2
120°-130°	1256.9	12.0
130°-140°	1335.2	12.7
140°-150°	1240.9	11.8
150°-160°	997.6	9.5
160°-170°	642.8	6.1
170°-180°	221.3	2.1
0°-30°	1267.2	12.1
0°-40°	1967.8	18.8
0°-60°	3117.4	29.8
0°-90°	3663.3	35.0
90°-120°	1120.2	10.7
90°-150°	4953.3	47.3
90°-180°	6815.0	65.0
0°-180°	10478.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1779	1779	1779	1779	1779	
5°	1779	1771	1750	1765	1760	169
15°	1692	1675	1620	1589	1573	477
25°	1536	1484	1378	1312	1288	706
35°	1324	1242	1100	998	963	828
45°	1082	974	805	691	652	836
55°	823	697	523	427	396	735
65°	556	425	280	226	221	551
75°	296	184	129	118	116	313
85°	69	35	31	31	31	79
90°	2	20	34	42	45	10
95°	109	54	66	74	72	129
105°	511	562	103	121	128	546
115°	967	996	1038	259	138	952
125°	1367	1389	1421	1433	1438	1220
135°	1692	1719	1734	1751	1748	1307
145°	1963	1961	1990	2002	1993	1228
155°	2161	2146	2167	2177	2163	996
165°	2278	2268	2272	2284	2272	643
175°	2330	2318	2321	2333	2316	222
180°	2325	2325	2325	2325	2325	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1779.3	1779.3	1779.3	1779.3	1779.3
2.5°	1787.3	1779.3	1761.5	1777.7	1774.4
5°	1779.3	1771.2	1750.2	1764.7	1760.0
7.5°	1764.7	1755.1	1732.6	1739.0	1730.9
10°	1745.4	1734.1	1702.0	1697.1	1687.5
12.5°	1721.3	1706.8	1663.3	1653.7	1635.9
15°	1692.3	1674.6	1619.9	1589.3	1573.2
17.5°	1658.5	1632.7	1565.0	1529.6	1503.8
20°	1619.9	1587.6	1507.1	1467.0	1431.4
22.5°	1578.0	1540.9	1447.5	1392.8	1368.7
25°	1536.1	1484.5	1378.3	1312.3	1288.1
27.5°	1486.3	1431.4	1313.9	1238.2	1201.2
30°	1433.1	1371.8	1243.0	1161.0	1117.4
32.5°	1381.6	1307.4	1175.5	1078.8	1038.5
35°	1323.6	1241.5	1099.8	998.3	962.9
37.5°	1267.2	1178.6	1029.0	917.7	877.6
40°	1207.6	1111.1	954.8	840.5	798.7
42.5°	1146.5	1043.4	880.8	761.6	721.4
45°	1082.1	974.1	805.1	690.7	652.0
47.5°	1020.9	906.6	732.7	618.3	582.9
50°	953.3	839.0	661.8	550.6	516.9
52.5°	887.2	766.4	594.2	487.9	457.4
55°	822.8	697.1	523.2	426.7	396.1
57.5°	756.8	628.0	460.5	370.4	344.6
60°	689.1	560.3	394.4	312.5	286.6
62.5°	623.2	494.4	338.1	260.9	248.1
65°	555.5	425.1	280.2	225.5	220.6
67.5°	491.1	360.7	225.5	198.0	193.2
70°	423.5	297.9	186.8	170.6	164.2
72.5°	359.1	239.9	156.2	143.4	140.1
75°	296.3	183.5	128.8	117.5	116.0
77.5°	233.5	130.4	101.5	95.0	91.7
80°	175.5	93.4	77.2	70.9	70.9
82.5°	122.3	62.9	53.1	49.9	49.9
85°	69.2	35.4	30.6	30.6	30.6
87.5°	25.8	12.8	12.8	11.3	11.3
90°	1.6	20.1	33.6	42.1	45.4
92.5°	42.1	35.4	40.4	43.7	45.4
95°	109.3	53.7	65.5	74.1	72.3
97.5°	196.7	58.9	85.7	90.9	92.5
100°	297.8	67.3	95.9	109.3	112.6
102.5°	408.7	405.4	99.3	117.6	122.9
105°	511.3	561.9	102.6	121.1	127.9
107.5°	630.8	672.7	106.1	124.4	131.2
110°	745.3	780.4	294.5	126.2	132.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	852.9	883.0	854.5	*129.4*	134.7
115°	967.2	995.7	1037.8	*259.1*	138.0
117.5°	1066.4	1100.0	1128.8	*888.0*	447.5
120°	1177.5	1202.6	1233.0	*1253.2*	1026.1
122.5°	1271.5	1298.6	1332.3	*1342.3*	1344.1
125°	1367.4	1389.4	1421.3	*1433.1*	1438.1
127.5°	1454.9	1478.5	1503.9	*1520.6*	1522.2
130°	1537.4	1564.3	1582.8	*1601.4*	1599.7
132.5°	1621.5	1643.5	1661.9	*1677.1*	1675.4
135°	1692.2	1719.2	1734.1	*1751.2*	1747.7
137.5°	1766.2	1786.3	1803.3	*1820.1*	1815.1
140°	1838.4	1852.0	1870.4	*1885.6*	1877.1
142.5°	1899.2	1910.9	1932.7	*1946.1*	1937.7
145°	1963.1	1961.3	1989.9	*2001.6*	1993.2
147.5°	2018.4	2013.4	2041.9	*2050.4*	2043.8
150°	2072.3	2060.5	2087.5	*2097.5*	2089.1
152.5°	2117.7	2104.3	2129.4	*2139.7*	2127.9
155°	2161.4	2146.5	2166.6	*2176.6*	2163.3
157.5°	2196.7	2183.4	2198.6	*2210.4*	2196.7
160°	2227.1	2217.0	2227.1	*2237.1*	2225.3
162.5°	2253.9	2243.9	2252.3	*2264.1*	2248.9
165°	2277.5	2267.5	2272.5	*2284.2*	2272.5
167.5°	2296.0	2285.9	2291.0	*2302.8*	2287.7
170°	2311.3	2301.0	2304.5	*2316.3*	2301.0
172.5°	2321.3	2311.3	2314.6	*2326.4*	2311.3
175°	2329.6	2317.8	2321.3	*2333.0*	2316.3
177.5°	*2333.0*	*2321.3*	*2323.0*	*2334.8*	*2319.6*
180°	2324.6	2324.6	2324.6	*2324.6*	2324.6

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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	8.06	8.78	9.14	9.86	11.33	4.03	4.75	5.11	5.83	7.30
	3H	9.72	10.37	10.81	11.45	12.95	5.20	5.85	6.29	6.93	8.42
	4H	10.32	10.93	11.42	12.02	13.52	5.64	6.25	6.74	7.34	8.84
	6H	10.73	11.30	11.84	12.39	13.90	5.95	6.51	7.06	7.61	9.11
	8H	10.86	11.39	11.97	12.50	14.00	6.04	6.57	7.15	7.68	9.18
	12H	10.91	11.42	12.03	12.52	14.04	6.07	6.58	7.19	7.68	9.21
4H	2H	8.06	8.67	9.17	9.76	11.26	4.61	5.22	5.71	6.30	7.80
	3H	9.88	10.38	10.99	11.50	13.01	5.94	6.45	7.05	7.56	9.07
	4H	10.56	11.03	11.68	12.13	13.66	6.48	6.94	7.60	8.05	9.58
	6H	11.06	11.46	12.19	12.59	14.11	6.88	7.28	8.01	8.41	9.93
	8H	11.23	11.61	12.36	12.72	14.26	7.01	7.38	8.13	8.50	10.04
	12H	11.32	11.66	12.46	12.79	14.33	7.06	7.40	8.21	8.53	10.08
8H	4H	10.52	10.89	11.64	12.01	13.55	6.75	7.12	7.87	8.24	9.78
	6H	11.07	11.38	12.22	12.54	14.08	7.25	7.56	8.40	8.72	10.26
	8H	11.28	11.55	12.44	12.70	14.25	7.44	7.71	8.59	8.85	10.40
	12H	11.41	11.65	12.57	12.79	14.38	7.55	7.78	8.70	8.92	10.51
12H	4H	10.46	10.80	11.61	11.93	13.48	6.74	7.08	7.89	8.21	9.76
	6H	11.05	11.32	12.20	12.46	14.01	7.30	7.57	8.45	8.71	10.26
	8H	11.26	11.49	12.41	12.63	14.22	7.50	7.74	8.66	8.87	10.46

END OF REPORT