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: P926443

Luminaire Tested: DFN2DIP-TR4F0-060D050US950-FLLONL

Issue Date: 11/21/2024

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Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P926443
	REPORT IS A COMBINATION OF REPORTS P901911 AND P898849
Test Lab:	INNOVATION CENTER
Issue Date:	11/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	NEO-RAY
Catalog Number:	DFN2DIP-TR4F0-060D050US950-FLLONL
Description:	4 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	10389.1 lumens
Efficiency:	N/A
Efficacy:	113.9 lumens/watt
Spacing Criteria (0/90/45):	1.2 / 1.16 / 1.29
Luminous Opening:	Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type:	General Diffuse

Input Watts (W):	91.2
Input Voltage (V):	
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.9781
Total Harmonic Distortion (THDi):	0.075
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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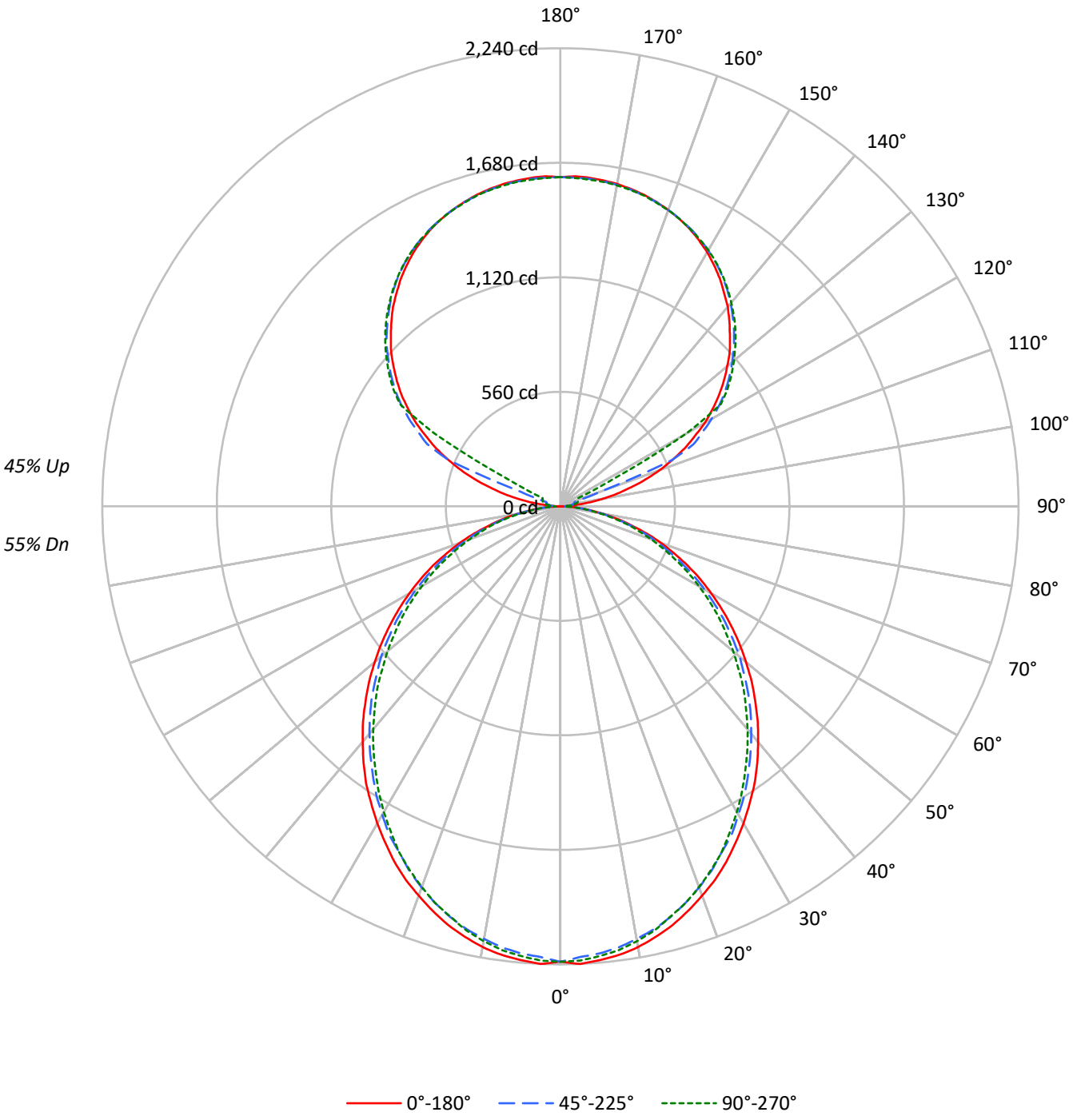
Luminous Intensity Polar Plot



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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	108	108	108	108	100	100	100	100	86	86	86	73	73	73	60	60	60	55
1	99	94	91	87	92	88	84	81	75	73	71	64	62	60	53	52	51	46
2	90	82	76	71	83	77	71	67	66	62	58	56	53	51	47	45	43	39
3	82	73	65	59	76	68	61	56	58	53	49	50	46	43	42	39	37	33
4	75	64	56	50	69	60	53	47	52	46	42	44	40	37	37	34	32	28
5	69	57	49	43	64	53	46	41	46	41	36	40	35	32	34	30	27	24
6	64	51	43	37	59	48	41	35	42	36	32	36	31	28	30	27	24	21
7	59	46	38	33	54	43	36	31	38	32	28	33	28	25	28	24	22	19
8	55	42	34	29	51	40	33	28	35	29	25	30	25	22	26	22	19	17
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	17	15
10	48	35	28	23	44	33	27	22	29	24	20	25	21	18	22	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1769	1769	1769
5°	1772	1745	1756
10°	1758	1721	1733
15°	1732	1693	1695
20°	1697	1653	1657
25°	1662	1606	1613
30°	1619	1563	1557
35°	1578	1511	1498
40°	1527	1459	1442
45°	1476	1406	1384
50°	1421	1351	1317
55°	1363	1288	1256
60°	1297	1212	1186
65°	1226	1134	1102
70°	1135	1039	1013
75°	1009	925	931
80°	857	780	773
85°	620	529	513

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1476 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.6	2.0
10°-20°	589.8	5.7
20°-30°	866.8	8.3
30°-40°	1006.7	9.7
40°-50°	1005.5	9.7
50°-60°	876.7	8.4
60°-70°	648.1	6.2
70°-80°	366.7	3.5
80°-90°	99.6	1.0
90°-100°	53.1	0.5
100°-110°	197.9	1.9
110°-120°	524.8	5.1
120°-130°	870.4	8.4
130°-140°	924.6	8.9
140°-150°	859.3	8.3
150°-160°	690.9	6.7
160°-170°	445.2	4.3
170°-180°	153.2	1.5
0°-30°	1666.2	16.0
0°-40°	2673.0	25.7
0°-60°	4555.2	43.8
0°-90°	5669.6	54.6
90°-120°	775.8	7.5
90°-150°	3430.2	33.0
90°-180°	4719.0	45.4
0°-180°	10389.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2227	2227	2227	2227	2227	
5°	2227	2219	2195	2212	2208	211
15°	2120	2108	2080	2088	2078	597
25°	1919	1902	1866	1870	1866	883
35°	1656	1634	1600	1587	1576	1034
45°	1347	1332	1300	1276	1268	1040
55°	1020	1007	981	955	945	912
65°	688	675	653	634	623	680
75°	360	356	345	332	336	384
85°	88	86	84	77	75	98
90°	1	14	23	29	31	10
95°	76	37	45	51	50	90
105°	354	389	71	84	88	378
115°	670	690	719	179	96	659
125°	947	962	984	992	996	845
135°	1172	1191	1201	1213	1210	905
145°	1359	1358	1378	1386	1380	850
155°	1497	1486	1500	1507	1498	690
165°	1577	1570	1574	1582	1574	446
175°	1613	1605	1608	1616	1604	154
180°	1610	1610	1610	1610	1610	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	*2227.2*	2227.2	2227.2	2227.2	2227.2
2.5°	*2240.2*	*2229.5*	*2205.8*	*2227.2*	*2223.1*
5°	*2227.2*	2218.8	2195.2	2212.2	2208.1
7.5°	*2212.2*	2199.5	2175.9	2193.2	2188.9
10°	*2188.9*	2173.9	2148.1	2165.2	2158.8
12.5°	*2156.6*	2143.8	2118.2	2128.9	2124.6
15°	*2120.2*	2107.5	2079.5	2088.2	2077.5
17.5°	*2075.2*	2062.5	2034.6	2045.2	2034.6
20°	*2025.9*	2013.2	1983.2	1989.6	1981.2
22.5°	*1976.9*	1957.5	1929.6	1929.6	1925.3
25°	*1918.9*	1901.9	1865.5	1869.6	1865.5
27.5°	*1854.6*	1839.6	1811.8	1805.5	1794.9
30°	*1790.6*	1773.2	1741.2	1734.8	1726.2
32.5°	*1721.9*	1709.2	1674.8	1661.9	1653.3
35°	*1655.6*	1634.2	1599.9	1586.9	1576.2
37.5°	*1580.6*	1561.2	1527.0	1511.9	1501.2
40°	*1503.5*	1486.2	1452.0	1432.9	1424.2
42.5°	*1428.5*	1411.3	1377.2	1355.6	1342.9
45°	*1347.2*	1332.2	1299.9	1276.5	1267.9
47.5°	*1267.9*	1252.9	1218.6	1195.0	1182.2
50°	*1184.3*	1173.6	1143.7	1113.6	1102.9
52.5°	*1102.9*	1087.9	1060.2	1036.6	1021.6
55°	*1019.5*	1006.6	980.9	955.2	944.6
57.5°	*936.0*	925.3	897.3	871.7	863.0
60°	*852.3*	843.9	814.0	790.3	783.9
62.5°	*770.9*	755.9	734.6	713.2	704.6
65°	*687.5*	674.7	653.3	633.9	623.2
67.5°	*601.9*	591.0	571.9	556.9	548.3
70°	*522.6*	514.0	494.6	479.7	471.3
72.5°	*441.2*	432.6	422.0	407.0	400.6
75°	*359.7*	355.7	344.7	332.0	336.3
77.5°	*287.0*	278.4	274.0	267.7	261.3
80°	*214.3*	212.0	207.7	201.3	197.0
82.5°	*145.7*	145.7	143.6	135.0	135.0
85°	*87.7*	85.7	83.6	77.0	75.0
87.5°	*38.6*	34.3	30.0	23.7	21.4
90°	*1.1*	13.9	23.3	29.2	31.4
92.5°	*29.2*	24.5	28.0	30.3	31.4
95°	*75.7*	37.2	45.4	51.3	50.1
97.5°	*136.2*	40.8	59.3	63.0	64.0
100°	*206.3*	46.7	66.4	75.7	78.0
102.5°	*283.1*	280.8	68.8	81.5	85.1
105°	*354.1*	389.1	71.1	83.9	88.5
107.5°	*436.8*	465.8	73.5	86.1	90.9
110°	*516.1*	540.4	203.9	87.4	92.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	*590.6*	611.5	591.8	89.7	93.2
115°	*669.8*	689.6	718.7	179.4	95.6
117.5°	*738.5*	761.8	781.7	614.9	309.9
120°	*815.4*	832.8	853.8	867.9	710.5
122.5°	*880.5*	899.2	922.6	929.6	930.8
125°	*946.9*	962.2	984.3	992.4	996.0
127.5°	*1007.5*	1023.8	1041.5	1053.0	1054.2
130°	*1064.7*	1083.4	1096.1	1108.9	1107.9
132.5°	*1123.0*	1138.1	1150.8	1161.4	1160.3
135°	*1171.9*	1190.6	1200.9	1212.7	1210.3
137.5°	*1223.0*	1237.1	1248.8	1260.4	1257.0
140°	*1273.1*	1282.6	1295.2	1305.7	1300.0
142.5°	*1315.2*	1323.4	1338.5	1347.7	1341.9
145°	*1359.4*	1358.2	1378.0	1386.2	1380.3
147.5°	*1397.8*	1394.3	1414.1	1419.9	1415.4
150°	*1435.1*	1427.0	1445.6	1452.6	1446.7
152.5°	*1466.5*	1457.2	1474.7	1481.8	1473.5
155°	*1496.8*	1486.4	1500.4	1507.3	1498.1
157.5°	*1521.2*	1512.0	1522.5	1530.7	1521.2
160°	*1542.3*	1535.3	1542.3	1549.2	1541.1
162.5°	*1560.8*	1554.0	1559.7	1567.9	1557.4
165°	*1577.2*	1570.3	1573.7	1581.8	1573.7
167.5°	*1590.0*	1583.0	1586.6	1594.7	1584.2
170°	*1600.5*	1593.5	1595.9	1604.0	1593.5
172.5°	*1607.5*	1600.5	1602.9	1611.0	1600.5
175°	*1613.3*	1605.1	1607.5	1615.6	1604.0
177.5°	*1615.6*	1607.5	1608.7	1616.8	1606.3
180°	*1609.8*	1609.8	1609.8	1609.8	1609.8

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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	9.66	10.57	10.58	11.50	12.71	9.23	10.13	10.15	11.07	12.27
	3H	11.33	12.14	12.25	13.08	14.31	10.85	11.66	11.78	12.61	13.84
	4H	11.91	12.68	12.86	13.63	14.87	11.44	12.21	12.39	13.16	14.40
	6H	12.32	13.02	13.27	13.98	15.23	11.84	12.55	12.80	13.50	14.75
	8H	12.42	13.10	13.38	14.07	15.32	11.95	12.62	12.91	13.59	14.84
	12H	12.47	13.11	13.44	14.08	15.35	11.99	12.63	12.96	13.60	14.87
4H	2H	10.13	10.90	11.08	11.85	13.08	9.78	10.55	10.73	11.50	12.74
	3H	12.00	12.64	12.96	13.62	14.87	11.61	12.25	12.56	13.23	14.48
	4H	12.71	13.30	13.68	14.27	15.55	12.31	12.89	13.28	13.87	15.14
	6H	13.23	13.74	14.21	14.73	16.01	12.82	13.33	13.80	14.32	15.60
	8H	13.38	13.85	14.37	14.84	16.13	12.97	13.44	13.95	14.43	15.72
	12H	13.46	13.88	14.46	14.89	16.19	13.04	13.46	14.04	14.47	15.76
8H	4H	12.91	13.39	13.90	14.38	15.67	12.55	13.03	13.54	14.02	15.31
	6H	13.55	13.94	14.56	14.97	16.26	13.19	13.58	14.19	14.61	15.89
	8H	13.77	14.11	14.79	15.13	16.44	13.40	13.74	14.42	14.76	16.07
	12H	13.90	14.21	14.92	15.22	16.57	13.52	13.82	14.54	14.83	16.19
12H	4H	12.90	13.33	13.90	14.34	15.63	12.55	12.98	13.55	13.98	15.28
	6H	13.58	13.92	14.59	14.94	16.25	13.23	13.57	14.24	14.59	15.90
	8H	13.82	14.13	14.84	15.14	16.49	13.47	13.77	14.49	14.78	16.13

END OF REPORT