

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: P925325

Luminaire Tested: DFN2DIP-SQ2F0-040D050US950-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P925325
REPORT IS A COMBINATION OF REPORTS P901317 AND P898215
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ2F0-040D050US950-FLLONL
Description: 2 foot, Square Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

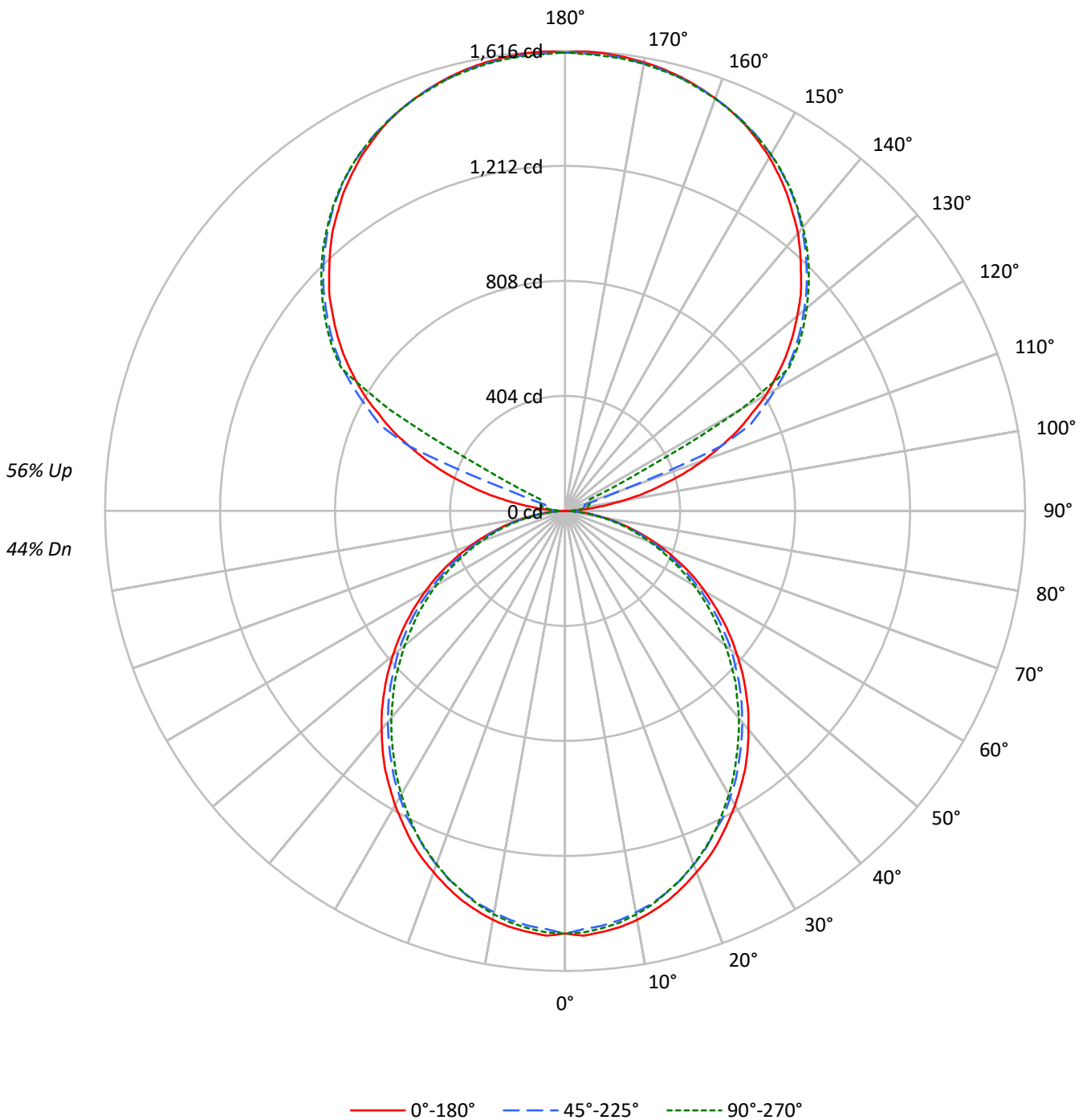
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8500.2 lumens
Efficiency: N/A
Efficacy: 119.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.21' x L: 2.21' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 71.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
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	50	30	10	0	
RCR																						
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44				44
1	97	92	88	85	88	85	81	78	70	68	66	57	56	54	45	44	43	37				37
2	88	81	74	69	80	74	69	64	62	58	55	50	48	45	40	38	36	31				31
3	80	71	64	58	73	65	59	54	54	50	46	44	41	38	35	33	31	27				27
4	73	63	55	49	67	58	51	46	48	43	39	40	36	33	31	29	27	23				23
5	67	56	48	42	61	51	44	39	43	38	34	35	31	28	28	25	23	20				20
6	62	50	42	36	57	46	39	34	39	33	29	32	28	25	26	23	20	17				17
7	57	45	37	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15				15
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	16	14				14
9	49	37	30	25	45	35	28	23	29	24	20	25	20	18	20	17	15	12				12
10	46	34	27	22	42	32	25	21	27	22	18	23	19	16	18	15	13	11				11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3265	3265	3265
5°	3264	3212	3237
10°	3232	3162	3188
15°	3179	3103	3115
20°	3109	3023	3041
25°	3040	2930	2955
30°	2954	2842	2848
35°	2872	2740	2734
40°	2772	2637	2626
45°	2672	2533	2515
50°	2563	2423	2386
55°	2448	2297	2268
60°	2317	2148	2131
65°	2174	1993	1971
70°	1992	1804	1797
75°	1743	1576	1630
80°	1439	1286	1324
85°	973	812	832

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2672 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.8	1.6
10°-20°	393.2	4.6
20°-30°	577.9	6.8
30°-40°	671.2	7.9
40°-50°	670.3	7.9
50°-60°	584.5	6.9
60°-70°	432.1	5.1
70°-80°	244.5	2.9
80°-90°	67.3	0.8
90°-100°	53.1	0.6
100°-110°	197.9	2.3
110°-120°	524.8	6.2
120°-130°	870.4	10.2
130°-140°	924.6	10.9
140°-150°	859.3	10.1
150°-160°	690.9	8.1
160°-170°	445.2	5.2
170°-180°	153.2	1.8
0°-30°	1110.8	13.1
0°-40°	1782.0	21.0
0°-60°	3036.8	35.7
0°-90°	3780.7	44.5
90°-120°	775.8	9.1
90°-150°	3430.2	40.4
90°-180°	4719.0	55.5
0°-180°	8500.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1485	1485	1485	1485	1485	
5°	1485	1479	1463	1475	1472	141
15°	1413	1405	1386	1392	1385	398
25°	1279	1268	1244	1246	1244	589
35°	1104	1090	1067	1058	1051	689
45°	898	888	867	851	845	693
55°	680	671	654	637	630	608
65°	458	450	436	423	416	453
75°	240	237	230	221	224	256
85°	58	57	56	51	50	65
90°	1	14	23	29	31	8
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	



TEST NUMBER: P925325

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1484.8	1484.8	1484.8	1484.8	1484.8
2.5°	1493.5	1486.3	1470.6	1484.8	1482.1
5°	1484.8	1479.2	1463.4	1474.8	1472.1
7.5°	1474.8	1466.3	1450.6	1462.1	1459.2
10°	1459.2	1449.2	1432.1	1443.5	1439.2
12.5°	1437.7	1429.2	1412.1	1419.3	1416.3
15°	1413.4	1405.0	1386.4	1392.1	1385.0
17.5°	1383.5	1375.0	1356.4	1363.5	1356.4
20°	1350.6	1342.1	1322.1	1326.3	1320.8
22.5°	1317.9	1305.0	1286.4	1286.4	1283.5
25°	1279.2	1267.9	1243.6	1246.4	1243.6
27.5°	1236.4	1226.4	1208.0	1203.7	1196.6
30°	1193.6	1182.2	1160.8	1156.5	1150.8
32.5°	1147.9	1139.5	1116.6	1108.0	1102.2
35°	1103.7	1089.5	1066.6	1058.0	1050.8
37.5°	1053.7	1040.8	1017.9	1008.0	1000.8
40°	1002.4	990.8	967.9	955.2	949.5
42.5°	952.4	940.8	918.1	903.7	895.2
45°	898.1	888.2	866.6	851.1	845.2
47.5°	845.2	835.2	812.4	796.7	788.2
50°	789.5	782.4	762.4	742.4	735.2
52.5°	735.2	725.3	706.8	691.1	681.1
55°	679.7	671.0	654.0	636.8	629.7
57.5°	623.9	616.9	598.2	581.1	575.4
60°	568.2	562.6	542.6	526.9	522.6
62.5°	514.0	504.0	489.8	475.5	469.7
65°	458.4	449.7	435.5	422.6	415.6
67.5°	401.3	394.0	381.3	371.3	365.6
70°	348.4	342.7	329.8	319.8	314.2
72.5°	294.2	288.4	281.3	271.3	267.0
75°	239.8	237.1	229.8	221.3	224.2
77.5°	191.3	185.6	182.7	178.4	174.2
80°	142.8	141.3	138.4	134.2	131.4
82.5°	97.1	97.1	95.8	90.0	90.0
85°	58.5	57.1	55.7	51.3	50.0
87.5°	25.8	22.9	20.0	15.7	14.2
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	10.74	11.55	11.74	12.56	13.91	10.29	11.10	11.29	12.12	13.47
	3H	12.37	13.10	13.39	14.12	15.49	11.88	12.61	12.90	13.63	15.00
	4H	12.95	13.64	13.97	14.66	16.04	12.45	13.14	13.48	14.17	15.54
	6H	13.33	13.96	14.36	14.99	16.38	12.83	13.46	13.86	14.49	15.88
	8H	13.42	14.03	14.47	15.08	16.46	12.92	13.53	13.96	14.57	15.96
	12H	13.46	14.04	14.51	15.08	16.49	12.95	13.53	14.00	14.57	15.98
4H	2H	11.18	11.87	12.21	12.90	14.27	10.82	11.52	11.86	12.54	13.92
	3H	13.02	13.60	14.06	14.65	16.04	12.61	13.19	13.65	14.24	15.63
	4H	13.72	14.24	14.76	15.29	16.70	13.29	13.82	14.34	14.86	16.28
	6H	14.21	14.66	15.27	15.73	17.14	13.78	14.23	14.83	15.30	16.71
	8H	14.35	14.77	15.41	15.83	17.26	13.91	14.34	14.97	15.40	16.82
	12H	14.41	14.79	15.49	15.87	17.30	13.96	14.35	15.04	15.42	16.85
8H	4H	13.90	14.32	14.95	15.38	16.80	13.52	13.94	14.58	15.00	16.43
	6H	14.50	14.85	15.58	15.96	17.38	14.12	14.47	15.20	15.57	16.99
	8H	14.71	15.02	15.80	16.10	17.54	14.32	14.62	15.40	15.71	17.15
	12H	14.82	15.10	15.92	16.18	17.66	14.41	14.69	15.51	15.77	17.25
12H	4H	13.88	14.26	14.95	15.34	16.76	13.51	13.89	14.58	14.97	16.39
	6H	14.53	14.83	15.61	15.92	17.36	14.15	14.46	15.24	15.55	16.99
	8H	14.75	15.02	15.84	16.10	17.58	14.37	14.64	15.46	15.72	17.20