

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: P912478

Luminaire Tested: DFN2DIP-TR2F0-030D050US850-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P912478
REPORT IS A COMBINATION OF REPORTS P900254 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-030D050US850-RLLFLL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

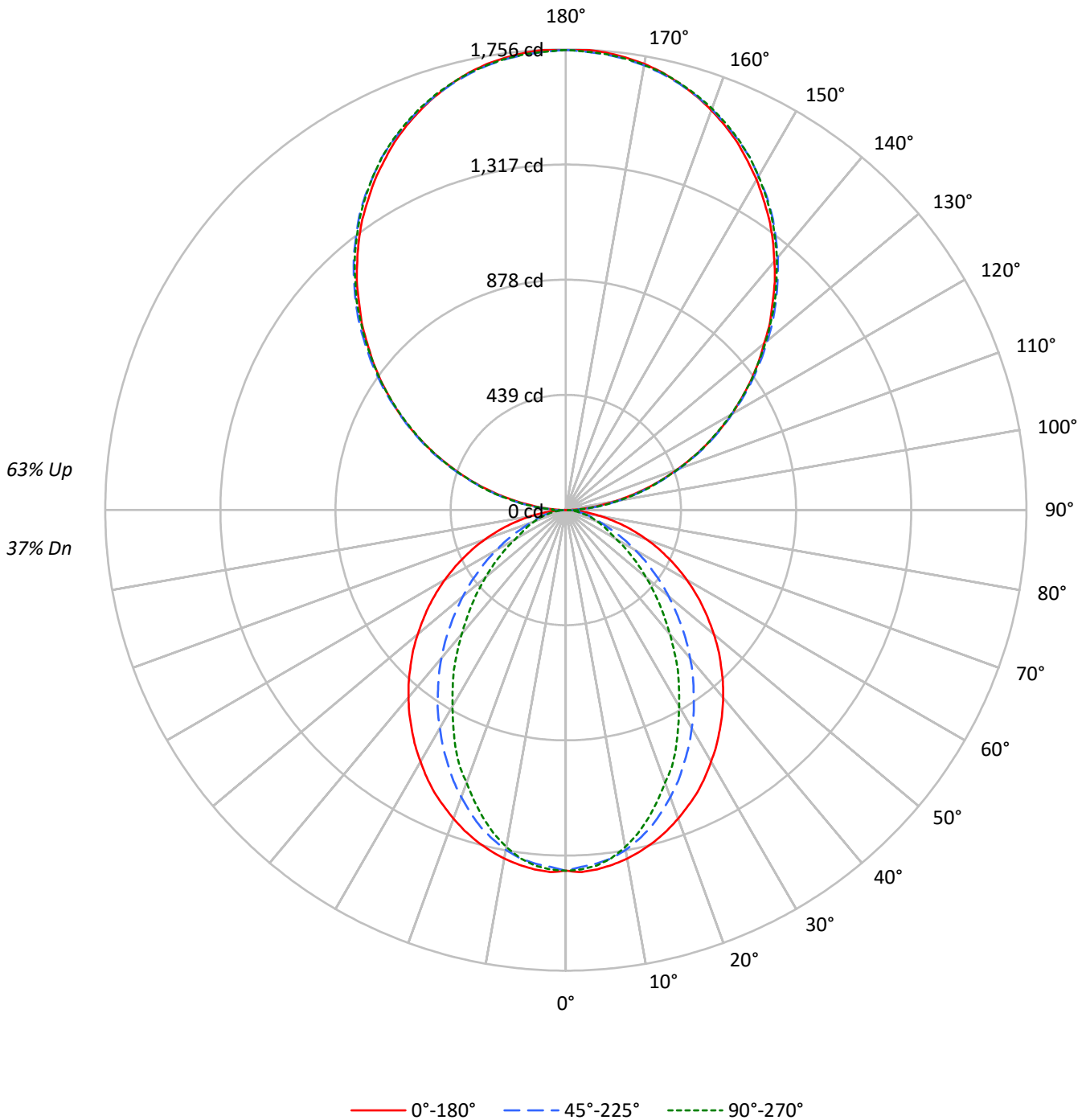
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7735.3 lumens
Efficiency: N/A
Efficacy: 121.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 63.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37				37
1	95	91	87	84	86	83	80	77	67	65	63	53	51	50	39	38	38	32				32
2	87	80	74	69	79	73	68	63	59	56	53	47	44	42	35	34	32	27				27
3	79	70	64	58	72	64	58	53	52	48	45	41	39	36	31	29	28	23				23
4	73	63	55	49	66	57	51	46	47	42	38	37	34	31	28	26	24	20				20
5	67	56	48	42	60	51	44	39	42	37	33	33	30	27	26	23	21	18				18
6	62	50	42	37	56	46	39	34	38	33	29	30	27	24	23	21	19	16				16
7	57	45	38	32	52	41	35	30	34	29	26	28	24	21	21	19	17	14				14
8	53	41	34	29	48	38	31	27	31	26	23	25	22	19	20	17	15	13				13
9	49	38	30	25	45	34	28	24	29	24	20	23	20	17	18	16	14	12				12
10	46	34	27	23	42	32	25	21	26	22	18	22	18	16	17	14	13	11				11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3067	3067	3067
5°	3067	3011	3032
10°	3032	2946	2929
15°	2986	2841	2771
20°	2926	2701	2580
25°	2865	2545	2395
30°	2785	2385	2163
35°	2705	2214	1959
40°	2624	2038	1726
45°	2531	1844	1515
50°	2433	1648	1310
55°	2331	1439	1113
60°	2213	1223	911
65°	2077	1004	814
70°	1912	799	730
75°	1703	692	653
80°	1404	561	551
85°	923	348	387

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2531 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.9	1.7
10°-20°	353.8	4.6
20°-30°	496.7	6.4
30°-40°	541.4	7.0
40°-50°	497.6	6.4
50°-60°	390.8	5.1
60°-70°	254.4	3.3
70°-80°	130.9	1.7
80°-90°	38.4	0.5
90°-100°	108.5	1.4
100°-110°	344.8	4.5
110°-120°	590.1	7.6
120°-130°	776.0	10.0
130°-140°	871.0	11.3
140°-150°	854.2	11.0
150°-160°	716.5	9.3
160°-170°	475.2	6.1
170°-180°	166.1	2.1
0°-30°	979.3	12.7
0°-40°	1520.7	19.7
0°-60°	2409.2	31.1
0°-90°	2832.9	36.6
90°-120°	1043.4	13.5
90°-150°	3544.6	45.8
90°-180°	4902.0	63.4
0°-180°	7735.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1375	1375	1375	1375	1375	
5°	1375	1369	1353	1364	1360	130
15°	1308	1294	1252	1228	1216	369
25°	1187	1147	1065	1014	995	546
35°	1023	959	850	772	744	640
45°	836	753	622	534	504	646
55°	636	539	404	330	306	568
65°	429	328	216	174	170	426
75°	229	142	100	91	90	242
85°	54	27	24	24	24	61
90°	2	19	52	49	50	8
95°	77	92	95	95	92	86
105°	318	322	326	328	328	336
115°	592	601	598	596	592	586
125°	861	874	870	866	864	770
135°	1114	1130	1134	1132	1128	861
145°	1352	1363	1371	1373	1367	845
155°	1546	1551	1555	1563	1558	712
165°	1682	1681	1681	1691	1684	475
175°	1751	1746	1743	1754	1745	166
180°	1754	1754	1754	1754	1754	



TEST NUMBER: P912478

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1375.0	1375.0	1375.0	1375.0	1375.0
2.5°	1381.3	1375.0	1361.3	1373.8	1371.4
5°	1375.0	1368.8	1352.6	1363.8	1360.1
7.5°	1363.8	1356.4	1339.0	1343.9	1337.7
10°	1348.9	1340.2	1315.4	1311.5	1304.2
12.5°	1330.2	1319.0	1285.4	1278.0	1264.3
15°	1307.8	1294.1	1251.8	1228.2	1215.8
17.5°	1281.7	1261.8	1209.5	1182.2	1162.2
20°	1251.8	1226.9	1164.7	1133.7	1106.2
22.5°	1219.6	1190.8	1118.6	1076.4	1057.8
25°	1187.2	1147.3	1065.2	1014.2	995.4
27.5°	1148.6	1106.2	1015.4	957.0	928.2
30°	1107.6	1060.2	960.6	897.3	863.6
32.5°	1067.6	1010.4	908.5	833.7	802.6
35°	1022.9	959.4	849.9	771.5	744.1
37.5°	979.4	910.8	795.2	709.2	678.3
40°	933.3	858.7	737.9	649.5	617.3
42.5°	886.0	806.5	680.7	588.5	557.5
45°	836.3	752.8	622.3	533.8	503.9
47.5°	788.9	700.7	566.3	477.8	450.5
50°	736.7	648.3	511.5	425.5	399.5
52.5°	685.6	592.3	459.2	377.1	353.4
55°	635.8	538.8	404.3	329.8	306.2
57.5°	584.9	485.3	356.0	286.2	266.3
60°	532.5	433.1	304.9	241.4	221.6
62.5°	481.6	382.1	261.3	201.6	191.7
65°	429.3	328.5	216.5	174.2	170.5
67.5°	379.6	278.7	174.2	153.0	149.3
70°	327.3	230.2	144.3	131.9	126.9
72.5°	277.5	185.3	120.7	110.8	108.2
75°	228.9	141.8	99.6	90.8	89.6
77.5°	180.4	100.7	78.4	73.4	70.9
80°	135.6	72.2	59.7	54.8	54.8
82.5°	94.5	48.6	41.0	38.6	38.6
85°	53.5	27.3	23.6	23.6	23.6
87.5°	20.0	9.9	9.9	8.8	8.8
90°	1.6	19.1	51.8	48.7	50.2
92.5°	32.8	44.4	46.0	47.6	47.6
95°	77.2	92.0	94.6	94.6	92.0
97.5°	128.4	142.2	148.1	148.1	148.1
100°	187.6	199.8	204.1	204.1	202.5
102.5°	250.1	259.1	264.8	266.5	264.8
105°	318.3	322.5	325.7	328.3	328.3
107.5°	385.9	392.3	392.3	393.4	385.9
110°	451.5	460.0	460.0	460.0	455.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	522.3	531.3	529.8	525.6	522.3
115°	592.1	600.6	598.0	596.4	592.1
117.5°	661.4	673.1	665.6	661.4	657.2
120°	731.2	742.8	731.2	731.2	726.4
122.5°	794.6	809.5	802.0	797.8	794.6
125°	861.2	874.4	870.2	865.5	863.9
127.5°	926.2	942.6	936.9	930.5	926.2
130°	987.1	1006.1	1003.4	1000.3	994.4
132.5°	1055.3	1070.1	1071.2	1063.8	1059.5
135°	1114.0	1130.3	1133.5	1132.0	1127.7
137.5°	1179.5	1192.7	1195.4	1194.3	1188.0
140°	1237.1	1250.4	1257.7	1257.7	1252.0
142.5°	1296.3	1309.6	1313.8	1315.4	1309.6
145°	1352.4	1363.0	1371.4	1373.1	1367.2
147.5°	1402.7	1415.9	1422.2	1424.8	1419.0
150°	1454.5	1463.4	1469.2	1474.0	1469.2
152.5°	1500.5	1509.5	1516.8	1522.7	1516.8
155°	1546.4	1550.6	1555.4	1562.8	1558.0
157.5°	1586.1	1589.2	1591.9	1602.5	1595.1
160°	1621.5	1624.7	1626.2	1635.2	1628.9
162.5°	1654.3	1654.3	1655.8	1665.9	1658.5
165°	1682.4	1680.7	1680.7	1691.3	1683.9
167.5°	1707.6	1702.9	1702.9	1713.5	1706.1
170°	1726.7	1722.5	1720.9	1731.5	1722.5
172.5°	1739.9	1735.7	1734.1	1744.7	1735.7
175°	1750.6	1746.2	1743.1	1753.7	1744.7
177.5°	1756.3	1752.1	1748.9	1757.9	1748.9
180°	1753.7	1753.7	1753.7	1753.7	1753.7



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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	9.52	10.25	10.59	11.32	12.77	5.50	6.23	6.57	7.30	8.75
	3H	11.16	11.82	12.24	12.89	14.36	6.66	7.32	7.74	8.39	9.86
	4H	11.75	12.37	12.84	13.45	14.93	7.10	7.72	8.19	8.80	10.27
	6H	12.15	12.72	13.25	13.80	15.29	7.40	7.97	8.50	9.05	10.54
	8H	12.26	12.80	13.36	13.90	15.38	7.48	8.02	8.58	9.12	10.60
	12H	12.31	12.82	13.42	13.91	15.42	7.51	8.03	8.62	9.12	10.62
4H	2H	9.52	10.14	10.61	11.22	12.69	6.07	6.69	7.16	7.77	9.24
	3H	11.31	11.83	12.41	12.93	14.42	7.39	7.91	8.49	9.01	10.50
	4H	11.98	12.45	13.09	13.55	15.06	7.92	8.39	9.03	9.49	11.00
	6H	12.47	12.87	13.58	13.99	15.49	8.32	8.72	9.43	9.84	11.34
	8H	12.63	13.01	13.74	14.12	15.64	8.44	8.81	9.55	9.92	11.44
	12H	12.71	13.05	13.84	14.17	15.69	8.49	8.83	9.62	9.95	11.48
8H	4H	11.94	12.32	13.05	13.43	14.95	8.18	8.56	9.29	9.67	11.19
	6H	12.47	12.79	13.61	13.94	15.45	8.67	8.98	9.81	10.14	11.65
	8H	12.68	12.95	13.82	14.08	15.62	8.85	9.12	9.99	10.26	11.79
	12H	12.79	13.03	13.94	14.16	15.73	8.95	9.19	10.10	10.32	11.89
12H	4H	11.88	12.23	13.02	13.35	14.87	8.18	8.52	9.31	9.64	11.16
	6H	12.45	12.72	13.59	13.85	15.39	8.72	8.99	9.86	10.12	11.66
	8H	12.65	12.89	13.79	14.02	15.59	8.91	9.15	10.05	10.28	11.85