

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: P912575

Luminaire Tested: DFN2DIP-TR3F0-040D040US850-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P912575
REPORT IS A COMBINATION OF REPORTS P901807 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-040D040US850-FLLONL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

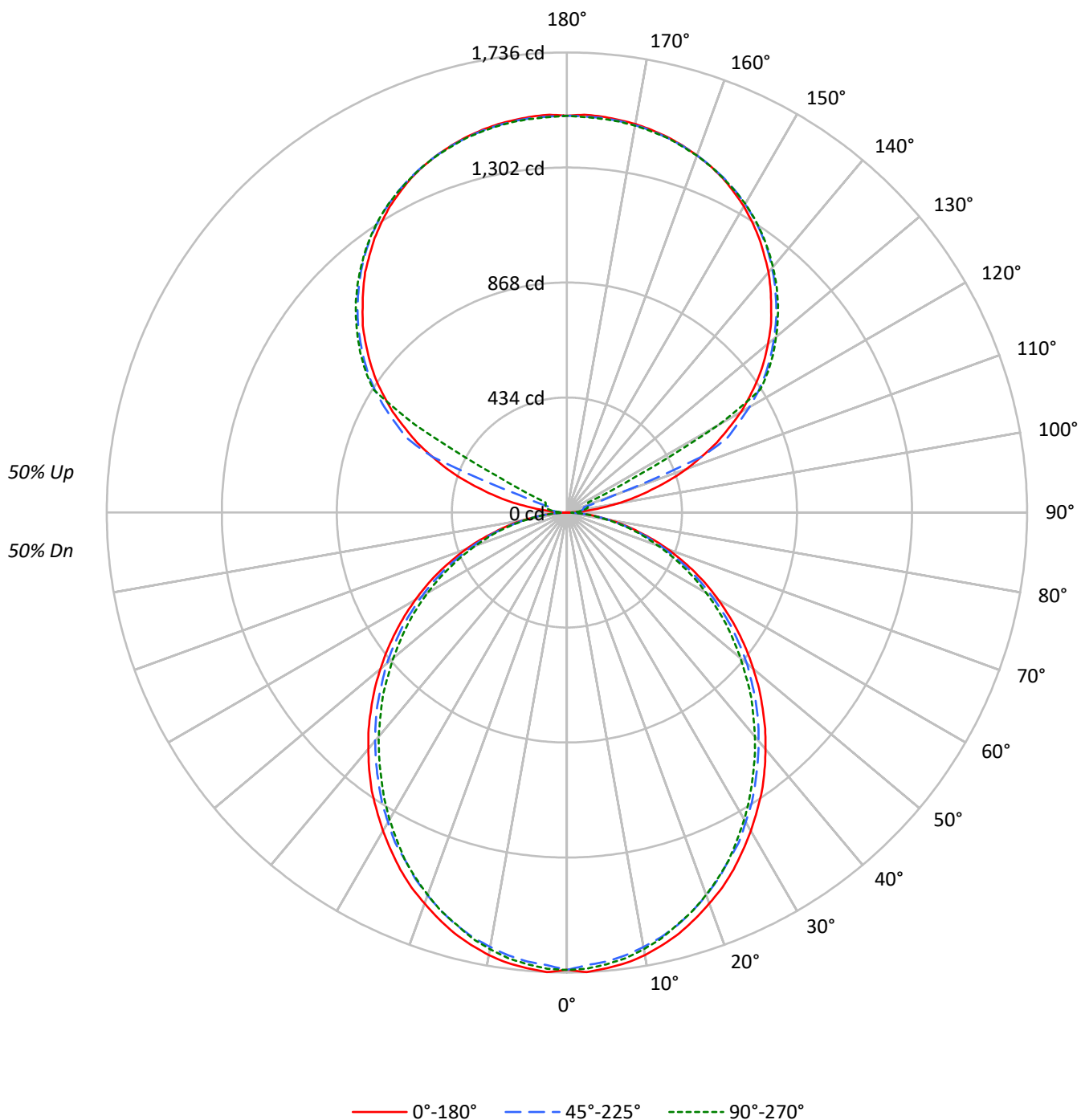
Lumens per Lamp: N/A
Luminaire Lumens: 8783.3 lumens
Efficiency: N/A
Efficacy: 136.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 64.5
Input Voltage (V): 120
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
RC	80				70					50					30					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	56	56	56
1	98	93	90	86	90	86	83	80	73	71	68	61	59	58	50	48	47	47	47	42
2	89	82	75	70	82	76	70	66	64	60	57	53	51	48	44	42	40	40	40	35
3	81	72	64	59	75	66	60	55	56	52	48	47	44	41	39	36	34	34	34	30
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	35	32	29	29	29	26
5	68	57	48	42	63	53	45	40	45	39	35	38	34	30	31	28	26	26	26	22
6	63	51	43	37	58	47	40	35	40	35	31	34	30	27	28	25	23	23	23	20
7	58	46	38	32	53	43	36	30	37	31	27	31	27	23	26	23	20	20	20	17
8	54	42	34	29	50	39	32	27	33	28	24	28	24	21	24	20	18	18	18	16
9	50	38	30	25	46	35	29	24	31	25	21	26	22	19	22	19	16	16	16	14
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	20	17	15	15	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2151	2151	2151
5°	2153	2119	2134
10°	2134	2089	2103
15°	2102	2053	2057
20°	2058	2003	2009
25°	2015	1944	1954
30°	1961	1889	1885
35°	1909	1825	1812
40°	1846	1759	1742
45°	1783	1694	1671
50°	1715	1625	1588
55°	1642	1545	1512
60°	1561	1451	1424
65°	1471	1353	1321
70°	1357	1233	1209
75°	1200	1090	1104
80°	1010	907	908
85°	714	597	586

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1783 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.5	1.8
10°-20°	457.1	5.2
20°-30°	671.7	7.6
30°-40°	780.2	8.9
40°-50°	779.2	8.9
50°-60°	679.5	7.7
60°-70°	502.3	5.7
70°-80°	284.2	3.2
80°-90°	77.6	0.9
90°-100°	49.4	0.6
100°-110°	184.0	2.1
110°-120°	488.1	5.6
120°-130°	809.5	9.2
130°-140°	859.9	9.8
140°-150°	799.2	9.1
150°-160°	642.5	7.3
160°-170°	414.0	4.7
170°-180°	142.5	1.6
0°-30°	1291.3	14.7
0°-40°	2071.5	23.6
0°-60°	3530.2	40.2
0°-90°	4394.3	50.0
90°-120°	721.5	8.2
90°-150°	3190.0	36.3
90°-180°	4389.0	50.0
0°-180°	8783.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1726	1726	1726	1726	1726	
5°	1726	1720	1701	1714	1711	164
15°	1643	1633	1612	1618	1610	463
25°	1487	1474	1446	1449	1446	684
35°	1283	1266	1240	1230	1222	801
45°	1044	1032	1007	989	983	806
55°	790	780	760	740	732	706
65°	533	523	506	491	483	527
75°	279	276	267	257	261	298
85°	68	66	65	60	58	76
90°	1	13	22	27	29	8
95°	70	35	42	48	47	83
105°	329	362	66	78	82	352
115°	623	641	668	167	89	613
125°	881	895	915	923	926	785
135°	1090	1107	1117	1128	1126	842
145°	1264	1263	1281	1289	1284	791
155°	1392	1382	1395	1402	1393	641
165°	1467	1460	1464	1471	1464	414
175°	1500	1493	1495	1502	1492	143
180°	1497	1497	1497	1497	1497	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1726.0	1726.0	1726.0	1726.0	1726.0
2.5°	1736.1	1727.8	1709.5	1726.0	1722.9
5°	1726.0	1719.5	1701.2	1714.4	1711.3
7.5°	1714.4	1704.5	1686.2	1699.7	1696.3
10°	1696.3	1684.7	1664.8	1678.0	1673.0
12.5°	1671.3	1661.4	1641.5	1649.9	1646.4
15°	1643.1	1633.2	1611.6	1618.3	1610.0
17.5°	1608.3	1598.4	1576.8	1585.0	1576.8
20°	1570.0	1560.1	1537.0	1541.8	1535.4
22.5°	1532.0	1517.0	1495.4	1495.4	1492.0
25°	1487.1	1473.9	1445.7	1448.9	1445.7
27.5°	1437.3	1425.6	1404.2	1399.2	1391.0
30°	1387.6	1374.3	1349.4	1344.4	1337.8
32.5°	1334.5	1324.6	1298.0	1288.0	1281.2
35°	1283.0	1266.5	1239.9	1229.9	1221.6
37.5°	1224.9	1209.9	1183.3	1171.8	1163.5
40°	1165.2	1151.8	1125.2	1110.4	1103.8
42.5°	1107.1	1093.7	1067.3	1050.6	1040.7
45°	1044.0	1032.5	1007.4	989.3	982.6
47.5°	982.6	970.9	944.4	926.1	916.3
50°	917.8	909.5	886.3	863.0	854.7
52.5°	854.7	843.2	821.7	803.4	791.7
55°	790.2	780.1	760.2	740.3	732.1
57.5°	725.3	717.1	695.3	675.5	668.8
60°	660.5	654.0	630.8	612.5	607.5
62.5°	597.5	585.9	569.4	552.7	546.1
65°	532.9	522.8	506.3	491.3	483.1
67.5°	466.4	458.0	443.3	431.6	425.0
70°	405.0	398.4	383.4	371.7	365.2
72.5°	342.0	335.3	327.0	315.4	310.4
75°	278.8	275.6	267.2	257.3	260.6
77.5°	222.4	215.7	212.4	207.4	202.5
80°	166.0	164.2	160.9	156.0	152.7
82.5°	112.9	112.9	111.3	104.6	104.6
85°	68.0	66.4	64.8	59.7	58.1
87.5°	29.9	26.6	23.3	18.3	16.5
90°	1.0	13.0	21.6	27.2	29.2
92.5°	27.2	22.7	26.0	28.2	29.2
95°	70.3	34.6	42.1	47.7	46.6
97.5°	126.8	37.9	55.2	58.6	59.6
100°	191.7	43.4	61.8	70.3	72.5
102.5°	263.2	261.2	63.9	75.7	79.1
105°	329.3	361.9	66.1	78.0	82.3
107.5°	406.2	433.3	68.3	80.2	84.5
110°	480.0	502.6	189.6	81.3	85.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	549.3	568.7	550.3	83.4	86.7
115°	622.8	641.2	668.4	166.8	88.9
117.5°	686.8	708.4	726.9	571.9	288.1
120°	758.3	774.5	794.0	807.1	660.9
122.5°	818.9	836.3	858.0	864.5	865.6
125°	880.7	894.9	915.4	923.0	926.2
127.5°	937.0	952.2	968.5	979.4	980.4
130°	990.1	1007.5	1019.3	1031.3	1030.3
132.5°	1044.2	1058.4	1070.3	1080.1	1079.1
135°	1089.8	1107.2	1116.9	1127.7	1125.6
137.5°	1137.4	1150.4	1161.3	1172.1	1168.9
140°	1184.0	1192.7	1204.6	1214.4	1208.9
142.5°	1223.1	1230.7	1244.7	1253.3	1248.0
145°	1264.3	1263.2	1281.4	1289.1	1283.7
147.5°	1299.9	1296.6	1315.1	1320.5	1316.3
150°	1334.6	1327.0	1344.4	1350.9	1345.4
152.5°	1363.8	1355.2	1371.4	1377.9	1370.4
155°	1392.0	1382.4	1395.3	1401.8	1393.1
157.5°	1414.8	1406.1	1416.0	1423.5	1414.8
160°	1434.3	1427.7	1434.3	1440.7	1433.2
162.5°	1451.6	1445.1	1450.6	1458.1	1448.4
165°	1466.8	1460.3	1463.5	1471.1	1463.5
167.5°	1478.7	1472.1	1475.5	1483.1	1473.3
170°	1488.5	1482.0	1484.1	1491.7	1482.0
172.5°	1494.9	1488.5	1490.7	1498.3	1488.5
175°	1500.3	1492.7	1494.9	1502.5	1491.7
177.5°	1502.5	1494.9	1496.0	1503.7	1493.9
180°	1497.2	1497.2	1497.2	1497.2	1497.2



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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	9.88	10.75	10.84	11.72	12.99	9.46	10.32	10.41	11.29	12.56
	3H	11.54	12.31	12.50	13.29	14.58	11.07	11.84	12.04	12.82	14.11
	4H	12.12	12.85	13.10	13.83	15.13	11.65	12.38	12.63	13.37	14.67
	6H	12.51	13.18	13.50	14.17	15.49	12.04	12.71	13.03	13.70	15.02
	8H	12.61	13.25	13.61	14.26	15.57	12.14	12.78	13.14	13.79	15.10
	12H	12.66	13.27	13.66	14.27	15.60	12.18	12.79	13.19	13.79	15.13
4H	2H	10.34	11.07	11.33	12.06	13.36	10.00	10.73	10.99	11.72	13.02
	3H	12.20	12.81	13.19	13.82	15.14	11.81	12.42	12.81	13.43	14.75
	4H	12.90	13.46	13.91	14.47	15.81	12.50	13.06	13.51	14.07	15.41
	6H	13.41	13.89	14.43	14.92	16.26	13.01	13.49	14.02	14.52	15.85
	8H	13.56	14.00	14.57	15.03	16.38	13.15	13.60	14.17	14.62	15.97
	12H	13.62	14.03	14.66	15.07	16.43	13.21	13.62	14.25	14.65	16.01
8H	4H	13.10	13.55	14.12	14.57	15.92	12.74	13.19	13.76	14.21	15.56
	6H	13.72	14.09	14.76	15.15	16.50	13.36	13.73	14.40	14.80	16.14
	8H	13.93	14.26	14.98	15.31	16.68	13.57	13.90	14.62	14.95	16.31
	12H	14.06	14.35	15.11	15.39	16.80	13.68	13.97	14.73	15.01	16.42
12H	4H	13.08	13.49	14.12	14.53	15.88	12.73	13.14	13.77	14.18	15.53
	6H	13.75	14.07	14.80	15.12	16.49	13.40	13.73	14.45	14.78	16.14
	8H	13.98	14.27	15.03	15.31	16.72	13.63	13.92	14.68	14.96	16.37