

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: P920772

Luminaire Tested: DFN2DIP-TR3F0-040D070US935-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920772
REPORT IS A COMBINATION OF REPORTS P900330 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-040D070US935-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

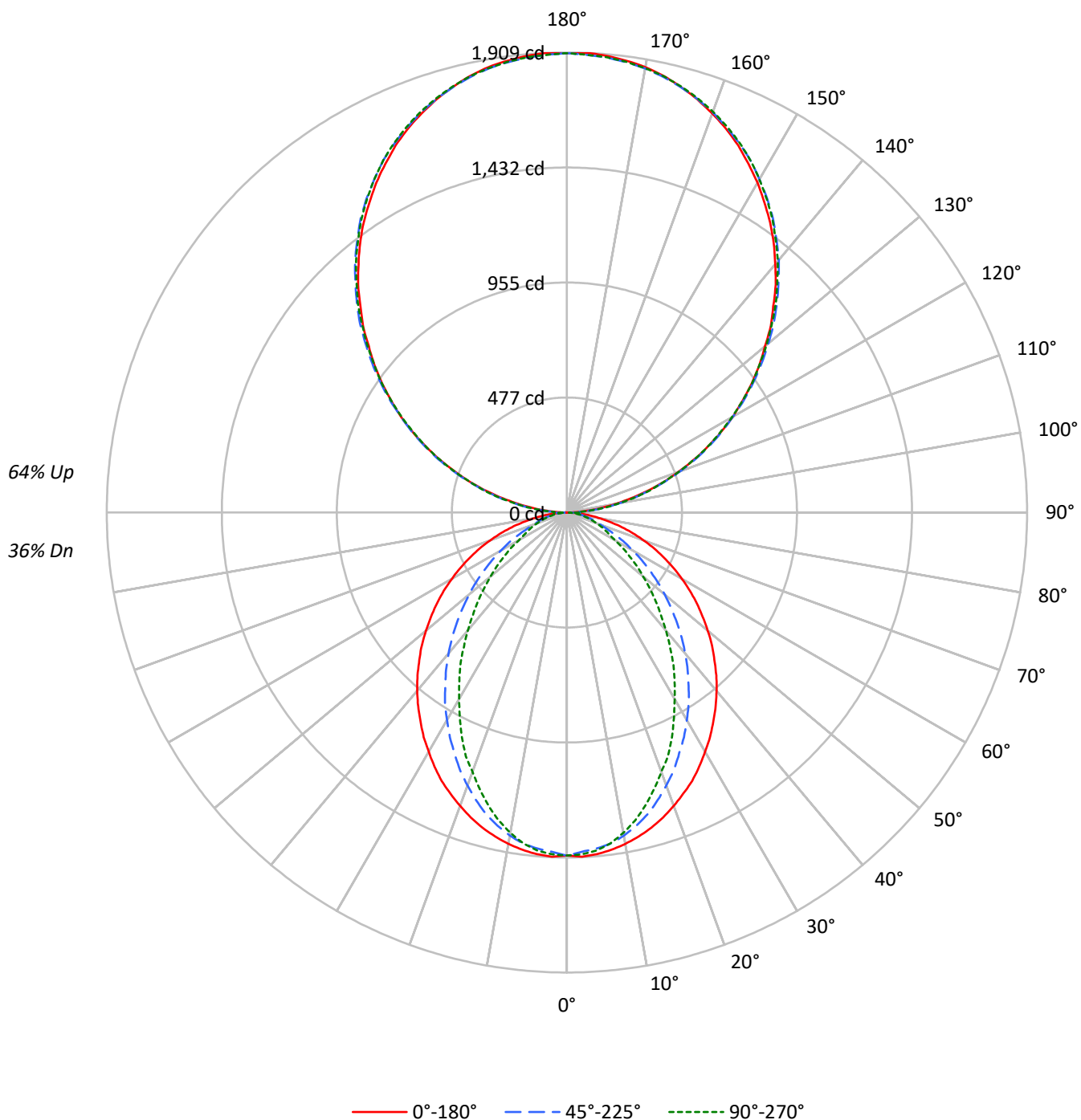
Lumens per Lamp: N/A
Luminaire Lumens: 8261.3 lumens
Efficiency: N/A
Efficacy: 93.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 88.2
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
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	104	104	104	104	94	94	94	94	75	75	75	58	58	58	43	43	43
1	95	91	87	84	86	82	79	76	66	64	62	52	50	49	38	37	37
2	87	80	74	69	78	72	67	63	59	55	52	46	44	42	34	33	31
3	79	70	63	58	71	64	58	53	52	48	44	41	38	36	31	29	27
4	73	62	55	49	65	57	50	45	46	42	38	37	33	31	27	25	24
5	67	56	48	42	60	51	44	39	42	37	33	33	29	27	25	23	21
6	61	50	42	37	55	46	39	34	37	32	29	30	26	24	23	20	18
7	57	45	37	32	51	41	35	30	34	29	25	27	24	21	21	18	17
8	53	41	33	28	48	38	31	26	31	26	23	25	21	19	19	17	15
9	49	37	30	25	44	34	28	24	28	24	20	23	19	17	18	15	14
10	46	34	27	23	42	31	25	21	26	21	18	21	18	15	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1774	1774	1774
5°	1776	1744	1756
10°	1757	1708	1697
15°	1732	1650	1608
20°	1699	1571	1499
25°	1665	1483	1393
30°	1620	1392	1260
35°	1576	1295	1142
40°	1531	1194	1008
45°	1479	1083	887
50°	1425	970	768
55°	1368	851	654
60°	1303	726	538
65°	1227	599	482
70°	1136	481	435
75°	1020	421	393
80°	854	348	337
85°	582	226	247

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1861 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.4	1.6
10°-20°	366.2	4.4
20°-30°	514.2	6.2
30°-40°	560.5	6.8
40°-50°	515.1	6.2
50°-60°	404.5	4.9
60°-70°	263.3	3.2
70°-80°	135.6	1.6
80°-90°	40.0	0.5
90°-100°	117.9	1.4
100°-110°	374.8	4.5
110°-120°	641.3	7.8
120°-130°	843.5	10.2
130°-140°	946.7	11.5
140°-150°	928.4	11.2
150°-160°	778.8	9.4
160°-170°	516.5	6.3
170°-180°	180.5	2.2
0°-30°	1013.8	12.3
0°-40°	1574.2	19.1
0°-60°	2493.9	30.2
0°-90°	2932.8	35.5
90°-120°	1134.1	13.7
90°-150°	3852.7	46.6
90°-180°	5328.0	64.5
0°-180°	8261.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1423	1423	1423	1423	1423	
5°	1423	1417	1400	1412	1408	135
15°	1354	1340	1296	1271	1259	382
25°	1229	1188	1103	1050	1030	565
35°	1059	993	880	799	770	663
45°	866	779	644	553	522	668
55°	658	558	419	341	317	588
65°	444	340	224	180	176	441
75°	237	147	103	94	93	251
85°	55	28	24	24	24	64
90°	2	21	56	53	55	8
95°	84	100	103	103	100	93
105°	346	350	354	357	357	365
115°	644	653	650	648	644	637
125°	936	950	946	941	939	837
135°	1211	1229	1232	1230	1226	936
145°	1470	1481	1491	1492	1486	918
155°	1681	1685	1691	1699	1694	774
165°	1828	1827	1827	1838	1830	516
175°	1903	1898	1895	1906	1896	181
180°	1906	1906	1906	1906	1906	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1423.4	1423.4	1423.4	1423.4	1423.4
2.5°	1429.9	1423.4	1409.2	1422.2	1419.5
5°	1423.4	1416.9	1400.2	1411.8	1408.0
7.5°	1411.8	1404.1	1386.1	1391.1	1384.7
10°	1396.4	1387.3	1361.6	1357.6	1350.0
12.5°	1377.1	1365.5	1330.6	1322.9	1308.7
15°	1353.8	1339.6	1295.9	1271.4	1258.6
17.5°	1326.8	1306.1	1252.0	1223.7	1203.1
20°	1295.9	1270.1	1205.7	1173.5	1145.1
22.5°	1262.4	1232.8	1158.0	1114.2	1095.0
25°	1228.9	1187.7	1102.6	1049.9	1030.4
27.5°	1189.0	1145.1	1051.1	990.6	960.9
30°	1146.5	1097.4	994.4	928.8	894.0
32.5°	1105.3	1045.9	940.4	863.1	830.8
35°	1058.9	993.2	879.9	798.7	770.2
37.5°	1013.8	942.9	823.1	734.2	702.1
40°	966.1	888.9	763.9	672.4	638.9
42.5°	917.1	834.7	704.6	609.2	577.1
45°	865.6	779.3	644.1	552.6	521.7
47.5°	816.7	725.3	586.2	494.6	466.3
50°	762.6	671.1	529.4	440.5	413.5
52.5°	709.7	613.1	475.4	390.3	365.8
55°	658.2	557.8	418.6	341.4	316.9
57.5°	605.5	502.4	368.4	296.3	275.7
60°	551.3	448.2	315.6	249.9	229.4
62.5°	498.6	395.5	270.4	208.7	198.5
65°	444.4	340.0	224.1	180.4	176.4
67.5°	393.0	288.5	180.4	158.4	154.5
70°	338.8	238.3	149.4	136.6	131.3
72.5°	287.3	191.9	124.9	114.7	112.1
75°	236.9	146.8	103.1	94.0	92.8
77.5°	186.8	104.3	81.2	76.0	73.4
80°	140.3	74.7	61.7	56.7	56.7
82.5°	97.9	50.3	42.5	39.9	39.9
85°	55.4	28.3	24.5	24.5	24.5
87.5°	20.7	10.2	10.2	9.0	9.0
90°	1.7	20.7	56.3	52.9	54.6
92.5°	35.6	48.3	50.0	51.7	51.7
95°	83.9	100.0	102.9	102.9	100.0
97.5°	139.7	154.5	160.9	160.9	160.9
100°	204.0	217.2	221.8	221.8	220.1
102.5°	271.8	281.5	287.9	289.6	287.9
105°	345.9	350.5	354.0	356.9	356.9
107.5°	419.5	426.4	426.4	427.6	419.5
110°	490.8	500.0	500.0	500.0	495.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	567.7	577.6	575.8	571.2	567.7
115°	643.6	652.8	650.0	648.2	643.6
117.5°	718.8	731.5	723.5	718.8	714.3
120°	794.7	807.4	794.7	794.7	789.5
122.5°	863.7	879.8	871.8	867.1	863.7
125°	936.1	950.5	945.9	940.7	939.0
127.5°	1006.8	1024.6	1018.3	1011.4	1006.8
130°	1072.9	1093.6	1090.7	1087.3	1080.9
132.5°	1147.0	1163.1	1164.2	1156.2	1151.6
135°	1210.8	1228.6	1232.1	1230.3	1225.7
137.5°	1282.0	1296.4	1299.2	1298.1	1291.2
140°	1344.7	1359.1	1367.1	1367.1	1360.8
142.5°	1409.0	1423.4	1428.0	1429.7	1423.4
145°	1470.0	1481.4	1490.6	1492.4	1486.1
147.5°	1524.6	1538.9	1545.8	1548.7	1542.4
150°	1580.9	1590.6	1597.0	1602.1	1597.0
152.5°	1630.8	1640.6	1648.6	1655.0	1648.6
155°	1680.8	1685.4	1690.7	1698.7	1693.5
157.5°	1724.0	1727.4	1730.3	1741.8	1733.7
160°	1762.5	1765.9	1767.6	1777.4	1770.5
162.5°	1798.1	1798.1	1799.8	1810.7	1802.7
165°	1828.5	1826.8	1826.8	1838.3	1830.2
167.5°	1856.1	1851.0	1851.0	1862.4	1854.4
170°	1876.8	1872.2	1870.5	1882.0	1872.2
172.5°	1891.2	1886.5	1884.8	1896.3	1886.5
175°	1902.6	1898.1	1894.6	1906.1	1896.3
177.5°	1909.0	1904.4	1900.9	1910.7	1900.9
180°	1906.1	1906.1	1906.1	1906.1	1906.1

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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	7.56	8.28	8.64	9.36	10.82	3.53	4.26	4.61	5.33	6.80
	3H	9.22	9.86	10.30	10.95	12.43	4.71	5.36	5.80	6.44	7.92
	4H	9.81	10.43	10.91	11.51	13.00	5.15	5.76	6.25	6.85	8.34
	6H	10.22	10.79	11.33	11.88	13.38	5.46	6.03	6.57	7.11	8.62
	8H	10.34	10.88	11.45	11.98	13.48	5.55	6.08	6.66	7.19	8.68
	12H	10.40	10.91	11.51	12.00	13.52	5.58	6.09	6.70	7.19	8.71
4H	2H	7.56	8.17	8.67	9.26	10.75	4.11	4.72	5.22	5.81	7.30
	3H	9.37	9.88	10.48	10.99	12.50	5.44	5.96	6.56	7.07	8.57
	4H	10.05	10.52	11.17	11.62	13.14	5.98	6.45	7.10	7.55	9.08
	6H	10.55	10.95	11.67	12.08	13.59	6.39	6.79	7.51	7.92	9.43
	8H	10.72	11.09	11.84	12.21	13.74	6.51	6.89	7.64	8.01	9.54
	12H	10.80	11.14	11.94	12.27	13.81	6.57	6.91	7.71	8.04	9.58
8H	4H	10.01	10.38	11.13	11.50	13.03	6.25	6.63	7.37	7.74	9.27
	6H	10.56	10.87	11.70	12.03	13.56	6.76	7.07	7.90	8.22	9.75
	8H	10.77	11.04	11.92	12.18	13.73	6.94	7.21	8.09	8.35	9.90
	12H	10.90	11.14	12.05	12.27	13.86	7.05	7.29	8.20	8.43	10.01
12H	4H	9.96	10.29	11.09	11.42	12.96	6.25	6.59	7.39	7.72	9.25
	6H	10.54	10.81	11.68	11.94	13.49	6.80	7.07	7.95	8.21	9.76
	8H	10.74	10.98	11.90	12.12	13.70	7.00	7.24	8.16	8.38	9.96

END OF REPORT