

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: P920792

Luminaire Tested: DFN2DIP-TR3F0-050D060US935-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920792
REPORT IS A COMBINATION OF REPORTS P900317 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-050D060US935-FLLFLL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

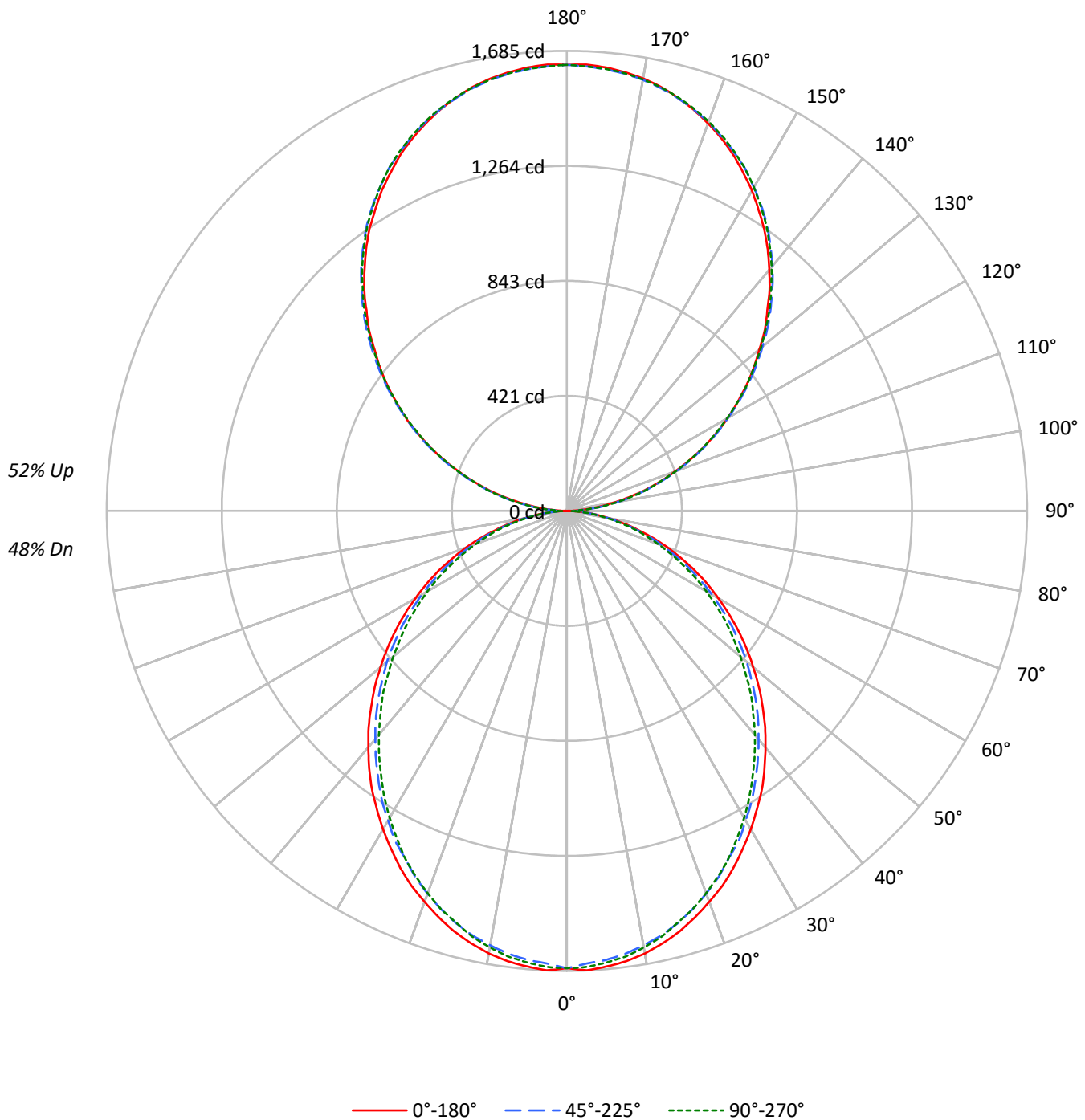
Lumens per Lamp: N/A
Luminaire Lumens: 8833.9 lumens
Efficiency: N/A
Efficacy: 97.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 90.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
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	98	98	98	98	82	82	82	68	68	68	55	55	55	48	48	48
1	97	93	89	86	89	86	82	79	72	70	68	60	58	57	48	47	46	41	41	41
2	89	81	75	70	81	75	70	65	63	59	56	52	50	47	42	41	39	34	34	34
3	81	71	64	58	74	66	60	54	56	51	47	46	43	40	38	35	33	29	29	29
4	74	63	55	49	68	59	52	46	50	44	40	41	37	34	34	31	28	25	25	25
5	68	56	48	42	62	52	45	40	44	39	35	37	33	30	30	27	25	22	22	22
6	63	51	42	37	57	47	40	34	40	34	30	34	29	26	27	24	22	19	19	19
7	58	46	38	32	53	42	35	30	36	31	27	30	26	23	25	22	19	17	17	17
8	54	41	34	28	49	39	32	27	33	28	24	28	24	20	23	20	17	15	15	15
9	50	38	30	25	46	35	28	24	30	25	21	26	21	18	21	18	16	14	14	14
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	12	12	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2087	2087	2087
5°	2090	2056	2071
10°	2071	2027	2041
15°	2040	1992	1996
20°	1998	1944	1950
25°	1955	1887	1897
30°	1903	1833	1829
35°	1853	1771	1758
40°	1792	1707	1691
45°	1731	1644	1621
50°	1664	1577	1541
55°	1594	1499	1467
60°	1514	1408	1382
65°	1428	1313	1281
70°	1317	1197	1174
75°	1165	1058	1072
80°	981	880	881
85°	693	580	569

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1731 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.7	1.8
10°-20°	443.6	5.0
20°-30°	651.9	7.4
30°-40°	757.2	8.6
40°-50°	756.2	8.6
50°-60°	659.4	7.5
60°-70°	487.4	5.5
70°-80°	275.8	3.1
80°-90°	77.4	0.9
90°-100°	101.1	1.1
100°-110°	321.2	3.6
110°-120°	549.7	6.2
120°-130°	723.0	8.2
130°-140°	811.5	9.2
140°-150°	795.8	9.0
150°-160°	667.5	7.6
160°-170°	442.7	5.0
170°-180°	154.7	1.8
0°-30°	1253.2	14.2
0°-40°	2010.3	22.8
0°-60°	3425.9	38.8
0°-90°	4266.6	48.3
90°-120°	972.0	11.0
90°-150°	3302.3	37.4
90°-180°	4567.0	51.7
0°-180°	8833.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1675	1675	1675	1675	1675	
5°	1675	1669	1651	1664	1661	159
15°	1595	1585	1564	1570	1562	449
25°	1443	1430	1403	1406	1403	664
35°	1245	1229	1203	1194	1186	778
45°	1013	1002	978	960	954	782
55°	767	757	738	718	710	686
65°	517	507	491	477	469	511
75°	270	267	259	250	253	289
85°	66	64	63	58	56	74
90°	2	18	48	45	47	9
95°	72	86	88	88	86	80
105°	296	300	303	306	306	313
115°	552	560	557	556	552	546
125°	802	815	811	806	805	717
135°	1038	1053	1056	1055	1051	802
145°	1260	1270	1278	1279	1274	787
155°	1441	1445	1449	1456	1452	663
165°	1567	1566	1566	1576	1569	442
175°	1631	1627	1624	1634	1625	155
180°	1634	1634	1634	1634	1634	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1675.1	1675.1	1675.1	1675.1	1675.1
2.5°	1684.8	1676.8	1659.1	1675.1	1672.1
5°	1675.1	1668.8	1651.0	1663.8	1660.8
7.5°	1663.8	1654.2	1636.5	1649.5	1646.2
10°	1646.2	1634.9	1615.7	1628.4	1623.7
12.5°	1621.9	1612.4	1593.1	1601.1	1597.8
15°	1594.6	1585.0	1564.0	1570.5	1562.5
17.5°	1560.7	1551.2	1530.2	1538.2	1530.2
20°	1523.7	1514.2	1491.6	1496.3	1490.0
22.5°	1486.8	1472.2	1451.2	1451.2	1447.9
25°	1443.2	1430.4	1403.0	1406.1	1403.0
27.5°	1394.8	1383.5	1362.7	1357.9	1349.9
30°	1346.6	1333.7	1309.6	1304.8	1298.3
32.5°	1295.0	1285.5	1259.6	1249.9	1243.5
35°	1245.1	1229.1	1203.2	1193.5	1185.5
37.5°	1188.7	1174.2	1148.4	1137.1	1129.1
40°	1130.8	1117.8	1092.0	1077.6	1071.2
42.5°	1074.4	1061.4	1035.8	1019.5	1010.0
45°	1013.2	1001.9	977.7	960.1	953.6
47.5°	953.6	942.3	916.5	898.7	889.2
50°	890.7	882.7	860.1	837.6	829.5
52.5°	829.5	818.2	797.4	779.6	768.4
55°	766.8	757.1	737.7	718.4	710.4
57.5°	703.9	695.9	674.9	655.6	649.0
60°	641.0	634.7	612.2	594.3	589.6
62.5°	579.9	568.6	552.5	536.4	529.9
65°	517.1	507.4	491.3	476.8	468.7
67.5°	452.7	444.5	430.2	418.9	412.3
70°	393.0	386.6	372.0	360.8	354.5
72.5°	331.9	325.4	317.4	306.1	301.3
75°	270.5	267.4	259.2	249.7	253.0
77.5°	215.9	209.3	206.1	201.3	196.6
80°	161.2	159.5	156.2	151.4	148.2
82.5°	109.5	109.5	108.0	101.5	101.5
85°	66.0	64.4	62.9	57.9	56.4
87.5°	29.0	25.8	22.6	17.7	16.1
90°	1.5	17.7	48.3	45.3	46.8
92.5°	30.6	41.4	42.9	44.3	44.3
95°	71.9	85.7	88.2	88.2	85.7
97.5°	119.7	132.5	137.9	137.9	137.9
100°	174.9	186.1	190.1	190.1	188.6
102.5°	233.0	241.3	246.8	248.2	246.8
105°	296.5	300.5	303.4	305.9	305.9
107.5°	359.6	365.5	365.5	366.4	359.6
110°	420.7	428.5	428.5	428.5	424.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	486.6	495.0	493.5	489.6	486.6
115°	551.6	559.6	557.1	555.6	551.6
117.5°	616.2	627.1	620.1	616.2	612.3
120°	681.2	692.1	681.2	681.2	676.7
122.5°	740.3	754.1	747.2	743.3	740.3
125°	802.4	814.7	810.7	806.3	804.9
127.5°	863.0	878.2	872.8	866.9	863.0
130°	919.6	937.4	934.9	931.9	926.5
132.5°	983.2	996.9	997.9	991.0	987.0
135°	1037.8	1053.1	1056.0	1054.6	1050.6
137.5°	1098.9	1111.2	1113.7	1112.7	1106.8
140°	1152.6	1164.9	1171.8	1171.8	1166.4
142.5°	1207.7	1220.0	1224.0	1225.5	1220.0
145°	1260.0	1269.8	1277.7	1279.2	1273.8
147.5°	1306.7	1319.0	1325.0	1327.4	1322.0
150°	1355.0	1363.4	1368.8	1373.2	1368.8
152.5°	1397.8	1406.3	1413.2	1418.6	1413.2
155°	1440.7	1444.7	1449.1	1456.0	1451.6
157.5°	1477.6	1480.7	1483.1	1493.0	1486.1
160°	1510.7	1513.6	1515.1	1523.4	1517.6
162.5°	1541.2	1541.2	1542.6	1552.0	1545.1
165°	1567.3	1565.8	1565.8	1575.7	1568.8
167.5°	1591.0	1586.6	1586.6	1596.4	1589.5
170°	1608.7	1604.7	1603.3	1613.1	1604.7
172.5°	1621.0	1617.0	1615.6	1625.4	1617.0
175°	1630.8	1626.9	1623.9	1633.8	1625.4
177.5°	1636.2	1632.4	1629.4	1637.7	1629.4
180°	1633.8	1633.8	1633.8	1633.8	1633.8

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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	9.62	10.46	10.59	11.45	12.74	9.19	10.03	10.16	11.02	12.31
	3H	11.27	12.02	12.25	13.02	14.34	10.80	11.56	11.78	12.55	13.87
	4H	11.85	12.56	12.84	13.56	14.89	11.38	12.10	12.37	13.10	14.42
	6H	12.24	12.90	13.24	13.90	15.24	11.77	12.43	12.78	13.43	14.77
	8H	12.34	12.97	13.35	13.99	15.32	11.87	12.50	12.88	13.52	14.86
	12H	12.38	12.98	13.40	14.00	15.36	11.91	12.51	12.93	13.52	14.88
4H	2H	10.07	10.79	11.07	11.79	13.11	9.73	10.45	10.73	11.45	12.77
	3H	11.93	12.53	12.94	13.55	14.89	11.54	12.14	12.55	13.16	14.50
	4H	12.63	13.18	13.65	14.20	15.56	12.23	12.78	13.25	13.80	15.16
	6H	13.14	13.61	14.17	14.65	16.01	12.73	13.21	13.76	14.25	15.61
	8H	13.28	13.72	14.31	14.76	16.13	12.88	13.32	13.91	14.35	15.73
	12H	13.35	13.75	14.40	14.80	16.18	12.94	13.33	13.98	14.38	15.76
8H	4H	12.82	13.26	13.85	14.30	15.67	12.47	12.91	13.50	13.94	15.32
	6H	13.44	13.81	14.50	14.89	16.26	13.09	13.45	14.14	14.53	15.90
	8H	13.66	13.98	14.72	15.04	16.43	13.29	13.61	14.36	14.68	16.07
	12H	13.78	14.06	14.85	15.12	16.55	13.40	13.69	14.47	14.74	16.18
12H	4H	12.81	13.21	13.86	14.26	15.64	12.46	12.86	13.51	13.91	15.29
	6H	13.47	13.79	14.53	14.86	16.25	13.12	13.45	14.19	14.51	15.90
	8H	13.71	13.99	14.77	15.05	16.48	13.35	13.64	14.42	14.69	16.13