

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: P905854

Luminaire Tested: DFN2DIP-PN3F0-090D050US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905854
REPORT IS A COMBINATION OF REPORTS P899552 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-090D050US835-RLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

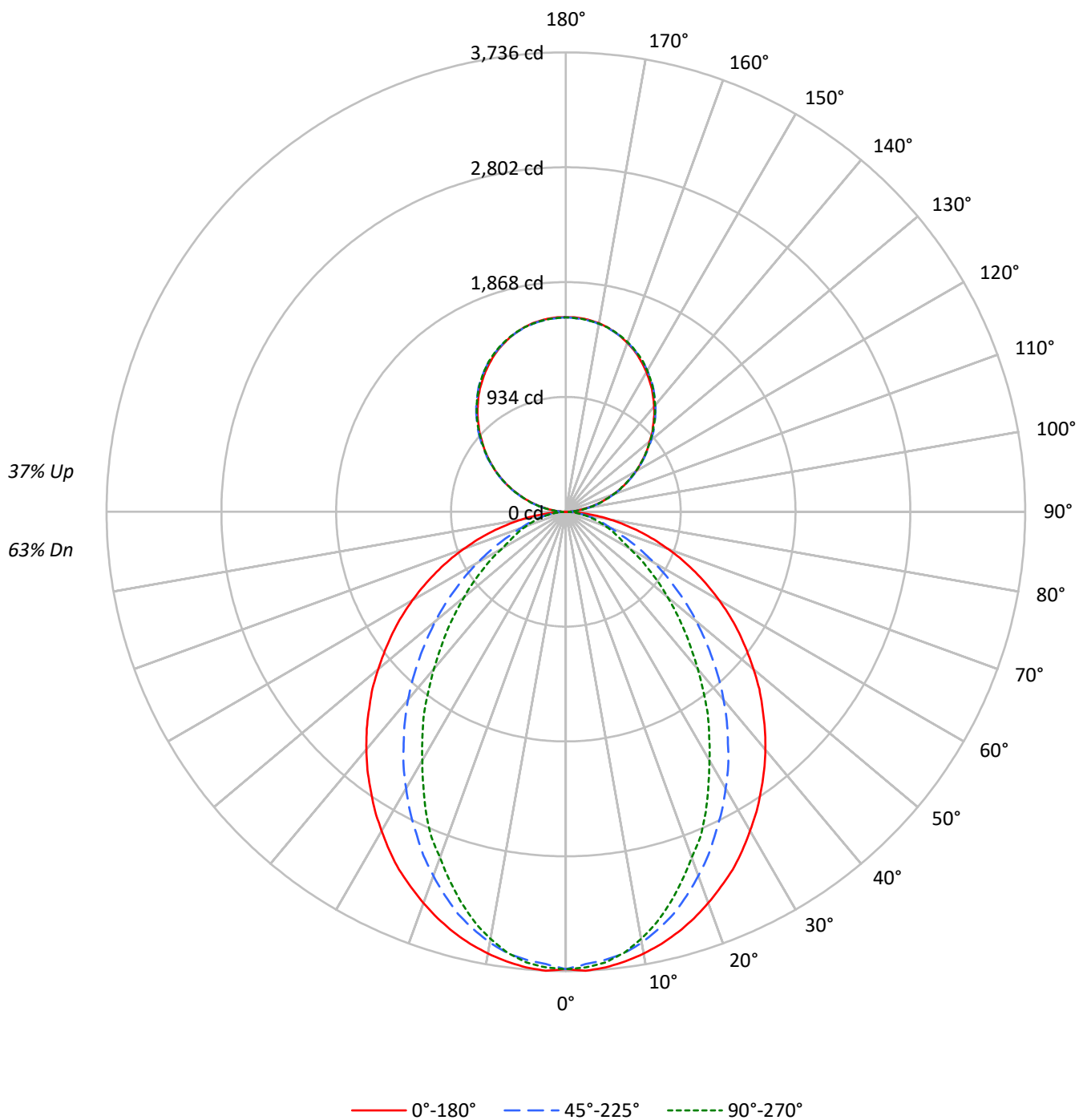
Lumens per Lamp: N/A
Luminaire Lumens: 12075.0 lumens
Efficiency: N/A
Efficacy: 92.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 130.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9954
Total Harmonic Distortion (THDi): 0.076
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
RCR																	
0	110	110	110	110	104	104	104	104	91	91	91		79	79	79		68
1	101	97	93	90	95	91	88	85	81	78	76		71	69	67		61
2	93	86	80	75	87	81	75	71	71	67	64		63	60	57		55
3	85	76	69	63	80	72	65	60	64	59	54		56	52	49		49
4	78	68	60	54	73	64	57	52	57	51	47		50	46	43		44
5	72	61	53	47	68	57	50	45	51	45	41		46	41	37		40
6	67	55	47	41	62	52	45	39	47	41	36		41	37	33		37
7	62	50	42	36	58	47	40	35	42	37	32		38	33	30		34
8	58	45	38	32	54	43	36	31	39	33	29		35	30	27		31
9	54	42	34	29	51	40	33	28	36	30	26		32	28	24		29
10	50	38	31	26	47	37	30	25	33	28	24		30	25	22		27

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4348	4348	4348
5°	4353	4276	4305
10°	4307	4189	4163
15°	4245	4048	3945
20°	4164	3854	3677
25°	4081	3638	3419
30°	3971	3416	3093
35°	3862	3178	2806
40°	3752	2931	2478
45°	3623	2659	2180
50°	3491	2384	1889
55°	3352	2090	1610
60°	3191	1784	1324
65°	3005	1473	1189
70°	2781	1183	1073
75°	2498	1036	973
80°	2089	859	837
85°	1418	559	618

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3623 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	348.6	2.9
10°-20°	957.0	7.9
20°-30°	1343.6	11.1
30°-40°	1464.6	12.1
40°-50°	1346.2	11.1
50°-60°	1057.2	8.8
60°-70°	688.1	5.7
70°-80°	354.2	2.9
80°-90°	94.9	0.8
90°-100°	97.8	0.8
100°-110°	310.9	2.6
110°-120°	532.1	4.4
120°-130°	699.7	5.8
130°-140°	785.4	6.5
140°-150°	770.2	6.4
150°-160°	646.1	5.4
160°-170°	428.5	3.5
170°-180°	149.8	1.2
0°-30°	2649.2	21.9
0°-40°	4113.9	34.1
0°-60°	6517.2	54.0
0°-90°	7654.5	63.4
90°-120°	940.8	7.8
90°-150°	3196.2	26.5
90°-180°	4421.0	36.6
0°-180°	12075.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3720	3720	3720	3720	3720	
5°	3720	3703	3659	3689	3679	353
15°	3538	3501	3386	3322	3289	997
25°	3212	3104	2882	2744	2693	1477
35°	2767	2595	2299	2087	2013	1732
45°	2262	2036	1683	1444	1363	1747
55°	1720	1458	1094	892	828	1537
65°	1161	889	586	471	461	1151
75°	619	384	269	246	242	655
85°	145	74	64	64	64	166
90°	1	17	47	44	45	12
95°	70	83	85	85	83	77
105°	287	291	294	296	296	303
115°	534	542	539	538	534	528
125°	777	788	785	780	779	694
135°	1004	1019	1022	1021	1017	776
145°	1220	1229	1237	1238	1233	762
155°	1394	1398	1402	1409	1405	642
165°	1517	1516	1516	1525	1518	428
175°	1578	1575	1572	1581	1573	150
180°	1581	1581	1581	1581	1581	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3719.7	3719.7	3719.7	3719.7	3719.7
2.5°	3736.5	3719.7	3682.5	3716.5	3709.7
5°	3719.7	3702.9	3659.0	3689.3	3679.3
7.5°	3689.3	3669.3	3622.2	3635.4	3618.6
10°	3649.0	3625.4	3558.3	3547.9	3527.9
12.5°	3598.6	3568.3	3477.2	3457.2	3420.0
15°	3537.9	3500.8	3386.5	3322.5	3289.0
17.5°	3467.2	3413.3	3271.8	3197.9	3144.0
20°	3386.5	3319.0	3150.7	3066.8	2992.5
22.5°	3299.0	3221.5	3026.1	2911.8	2861.5
25°	3211.5	3103.6	2881.5	2743.6	2692.9
27.5°	3107.2	2992.5	2746.8	2588.6	2511.1
30°	2996.1	2867.9	2598.6	2427.2	2336.1
32.5°	2888.2	2733.2	2457.5	2255.4	2171.1
35°	2767.2	2595.4	2299.3	2087.2	2012.9
37.5°	2649.3	2464.0	2151.1	1918.6	1834.7
40°	2524.7	2322.9	1996.1	1757.2	1669.7
42.5°	2396.8	2181.5	1841.4	1592.2	1508.2
45°	2262.2	2036.5	1683.2	1443.9	1363.2
47.5°	2134.3	1895.4	1531.8	1292.5	1218.6
50°	1992.9	1753.9	1383.6	1151.1	1080.7
52.5°	1854.7	1602.2	1242.2	1020.0	956.1
55°	1720.0	1457.5	1093.9	892.2	828.2
57.5°	1582.2	1312.9	962.9	774.3	720.4
60°	1440.7	1171.4	824.7	653.2	599.3
62.5°	1302.9	1033.6	706.8	545.4	518.6
65°	1161.4	888.6	585.7	471.4	461.1
67.5°	1026.8	753.9	471.4	413.9	403.9
70°	885.4	622.9	390.4	356.8	343.2
72.5°	750.7	501.4	326.4	299.6	292.9
75°	619.3	383.6	269.3	245.7	242.5
77.5°	488.2	272.5	212.1	198.6	191.8
80°	366.8	195.4	161.4	148.2	148.2
82.5°	255.7	131.4	111.1	104.3	104.3
85°	144.6	73.9	63.9	63.9	63.9
87.5°	53.9	26.8	26.8	23.6	23.6
90°	1.4	17.2	46.7	43.9	45.3
92.5°	29.6	40.0	41.5	42.9	42.9
95°	69.6	83.0	85.3	85.3	83.0
97.5°	115.8	128.2	133.5	133.5	133.5
100°	169.2	180.2	184.0	184.0	182.6
102.5°	225.5	233.6	238.8	240.3	238.8
105°	287.0	290.8	293.7	296.0	296.0
107.5°	348.0	353.7	353.7	354.7	348.0
110°	407.1	414.8	414.8	414.8	410.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	471.0	479.1	477.7	473.9	471.0
115°	533.9	541.6	539.2	537.8	533.9
117.5°	596.4	606.9	600.2	596.4	592.6
120°	659.3	669.8	659.3	659.3	655.0
122.5°	716.5	729.9	723.2	719.4	716.5
125°	776.6	788.5	784.7	780.4	779.0
127.5°	835.2	850.0	844.8	839.0	835.2
130°	890.1	907.2	904.8	902.0	896.7
132.5°	951.6	964.9	965.9	959.2	955.4
135°	1004.5	1019.2	1022.1	1020.7	1016.9
137.5°	1063.6	1075.5	1077.9	1076.9	1071.2
140°	1115.5	1127.5	1134.1	1134.1	1128.9
142.5°	1168.9	1180.9	1184.7	1186.1	1180.9
145°	1219.5	1229.0	1236.6	1238.1	1232.8
147.5°	1264.8	1276.7	1282.4	1284.8	1279.5
150°	1311.5	1319.6	1324.8	1329.1	1324.8
152.5°	1353.0	1361.1	1367.7	1373.0	1367.7
155°	1394.4	1398.2	1402.5	1409.2	1404.9
157.5°	1430.2	1433.0	1435.4	1445.0	1438.3
160°	1462.1	1465.0	1466.4	1474.5	1468.8
162.5°	1491.7	1491.7	1493.1	1502.2	1495.5
165°	1517.0	1515.5	1515.5	1525.1	1518.4
167.5°	1539.8	1535.5	1535.5	1545.1	1538.4
170°	1557.0	1553.2	1551.8	1561.3	1553.2
172.5°	1568.9	1565.1	1563.7	1573.2	1565.1
175°	1578.5	1574.6	1571.8	1581.3	1573.2
177.5°	1583.7	1579.9	1577.0	1585.1	1577.0
180°	1581.3	1581.3	1581.3	1581.3	1581.3

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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	13.38	14.33	14.22	15.19	16.26	9.35	10.30	10.19	11.16	12.23
	3H	15.06	15.91	15.91	16.78	17.88	10.54	11.39	11.39	12.26	13.35
	4H	15.67	16.48	16.54	17.35	18.46	10.99	11.79	11.86	12.67	13.77
	6H	16.09	16.83	16.98	17.72	18.84	11.31	12.05	12.19	12.93	14.05
	8H	16.22	16.93	17.11	17.82	18.94	11.40	12.11	12.29	13.01	14.13
	12H	16.28	16.96	17.18	17.85	18.99	11.45	12.12	12.34	13.01	14.15
4H	2H	13.41	14.22	14.29	15.09	16.20	9.95	10.76	10.83	11.63	12.74
	3H	15.25	15.91	16.13	16.82	17.94	11.31	11.98	12.19	12.88	14.00
	4H	15.94	16.54	16.83	17.45	18.60	11.86	12.46	12.75	13.37	14.51
	6H	16.45	16.98	17.36	17.90	19.05	12.27	12.80	13.19	13.72	14.88
	8H	16.63	17.12	17.54	18.04	19.20	12.40	12.89	13.32	13.81	14.98
	12H	16.72	17.16	17.66	18.10	19.27	12.47	12.91	13.40	13.85	15.02
8H	4H	15.91	16.40	16.83	17.32	18.49	12.14	12.63	13.05	13.55	14.71
	6H	16.48	16.88	17.42	17.84	19.01	12.66	13.06	13.60	14.02	15.18
	8H	16.69	17.05	17.64	18.00	19.18	12.84	13.20	13.79	14.15	15.33
	12H	16.83	17.14	17.78	18.09	19.32	12.96	13.28	13.91	14.22	15.45
12H	4H	15.87	16.31	16.80	17.25	18.42	12.15	12.59	13.08	13.53	14.70
	6H	16.45	16.81	17.40	17.76	18.94	12.70	13.06	13.65	14.01	15.20
	8H	16.67	16.99	17.63	17.93	19.16	12.91	13.23	13.87	14.17	15.41