

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: P905160

Luminaire Tested: DFN2DIP-HX2F0-020D050US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905160
REPORT IS A COMBINATION OF REPORTS P899182 AND P896039
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-020D050US835-RLLFLL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

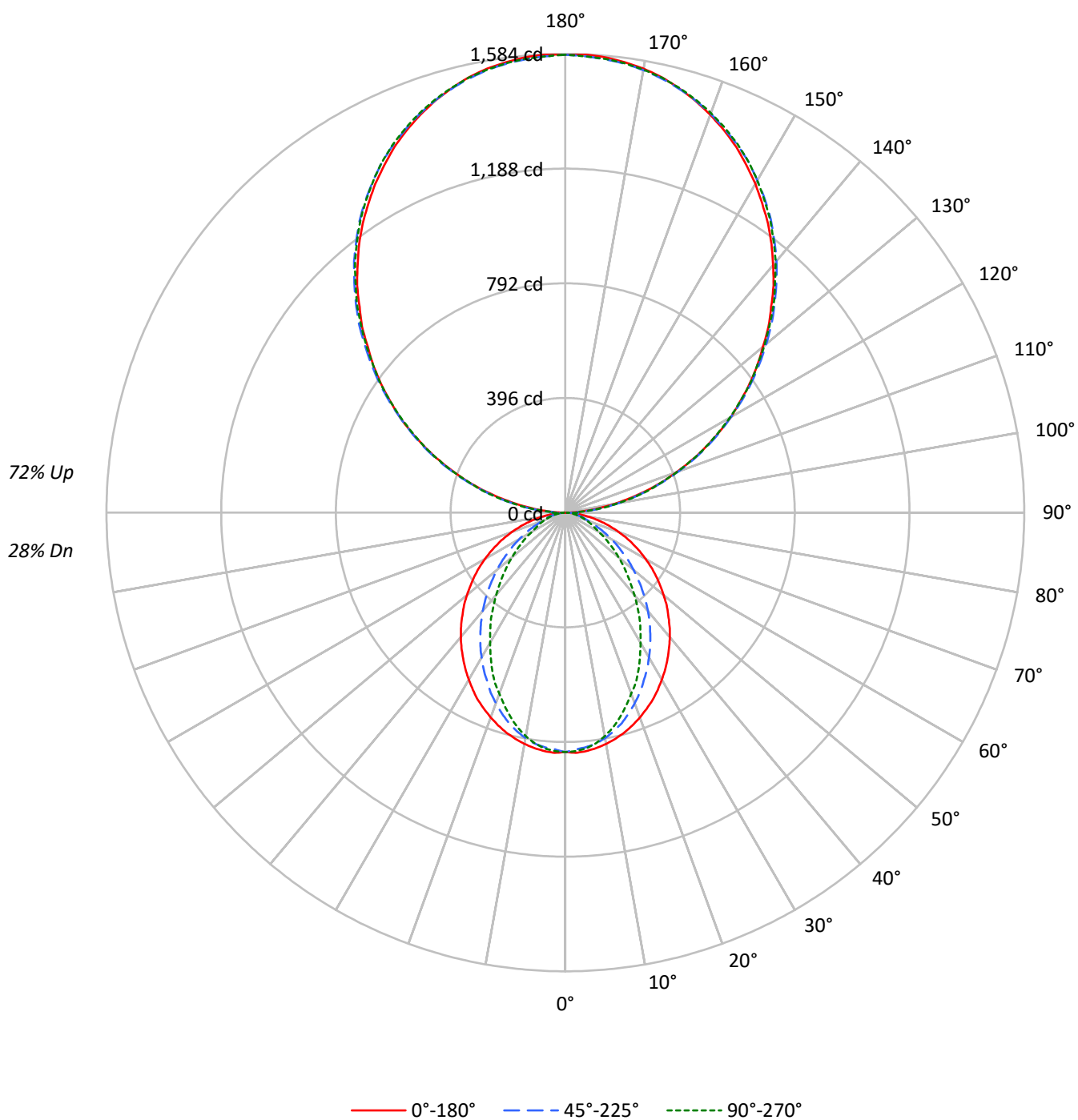
Lumens per Lamp: N/A
Luminaire Lumens: 6125.0 lumens
Efficiency: N/A
Efficacy: 114.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 53.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36
1	93	89	85	82	83	80	77	74	62	60	59	47	45	44	32	31	31
2	85	78	72	67	76	70	65	61	55	52	49	41	39	37	28	27	26
3	78	69	62	56	69	62	56	51	49	45	41	37	34	32	25	24	23
4	71	61	53	48	63	55	48	44	43	39	35	33	30	27	23	21	20
5	65	54	47	41	58	49	42	37	39	34	31	29	26	24	21	19	17
6	60	49	41	35	54	44	37	32	35	30	27	27	23	21	19	17	15
7	55	44	36	31	50	40	33	28	32	27	23	24	21	19	17	15	14
8	51	40	32	27	46	36	30	25	29	24	21	22	19	16	16	14	12
9	48	36	29	24	43	33	27	22	26	22	19	20	17	15	15	13	11
10	45	33	26	22	40	30	24	20	24	20	17	19	16	13	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1948	1948	1948
5°	1948	1912	1925
10°	1925	1870	1859
15°	1896	1803	1759
20°	1857	1714	1637
25°	1818	1615	1520
30°	1767	1513	1372
35°	1716	1405	1243
40°	1665	1292	1095
45°	1605	1169	961
50°	1543	1045	831
55°	1478	912	705
60°	1403	775	577
65°	1316	635	516
70°	1210	505	462
75°	1078	436	413
80°	887	354	347
85°	579	218	244

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2123 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.5	1.3
10°-20°	212.7	3.5
20°-30°	298.6	4.9
30°-40°	325.5	5.3
40°-50°	299.1	4.9
50°-60°	234.9	3.8
60°-70°	152.9	2.5
70°-80°	78.7	1.3
80°-90°	24.6	0.4
90°-100°	97.8	1.6
100°-110°	310.9	5.1
110°-120°	532.1	8.7
120°-130°	699.7	11.4
130°-140°	785.4	12.8
140°-150°	770.2	12.6
150°-160°	646.1	10.5
160°-170°	428.5	7.0
170°-180°	149.8	2.4
0°-30°	588.7	9.6
0°-40°	914.2	14.9
0°-60°	1448.3	23.6
0°-90°	1704.5	27.8
90°-120°	940.8	15.4
90°-150°	3196.2	52.2
90°-180°	4421.0	72.2
0°-180°	6125.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	827	827	827	827	827	
5°	827	823	813	820	818	78
15°	786	778	752	738	731	222
25°	714	690	640	610	598	328
35°	615	577	511	464	447	385
45°	503	452	374	321	303	388
55°	382	324	243	198	184	342
65°	258	198	130	105	102	256
75°	138	85	60	55	54	146
85°	32	16	14	14	14	37
90°	1	17	47	44	45	6
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°	826.6	826.6	826.6	826.6	826.6
2.5°	830.3	826.6	818.3	825.9	824.4
5°	826.6	822.9	813.1	819.9	817.6
7.5°	819.9	815.4	804.9	807.9	804.1
10°	810.9	805.6	790.7	788.4	784.0
12.5°	799.7	792.9	772.7	768.3	760.0
15°	786.2	777.9	752.5	738.3	730.9
17.5°	770.5	758.5	727.1	710.6	698.7
20°	752.5	737.5	700.2	681.5	665.0
22.5°	733.1	715.9	672.5	647.1	635.9
25°	713.7	689.7	640.3	609.7	598.4
27.5°	690.5	665.0	610.4	575.2	558.0
30°	665.8	637.3	577.5	539.4	519.1
32.5°	641.8	607.4	546.1	501.2	482.5
35°	614.9	576.8	511.0	463.8	447.3
37.5°	588.7	547.5	478.0	426.4	407.7
40°	561.0	516.2	443.6	390.5	371.0
42.5°	532.6	484.8	409.2	353.8	335.2
45°	502.7	452.5	374.1	320.9	302.9
47.5°	474.3	421.2	340.4	287.2	270.8
50°	442.9	389.8	307.5	255.8	240.2
52.5°	412.1	356.0	276.0	226.7	212.5
55°	382.2	323.9	243.1	198.3	184.0
57.5°	351.6	291.7	214.0	172.1	160.1
60°	320.2	260.3	183.3	145.2	133.2
62.5°	289.5	229.7	157.1	121.2	115.2
65°	258.1	197.5	130.2	104.8	102.5
67.5°	228.2	167.5	104.8	92.0	89.8
70°	196.7	138.4	86.7	79.3	76.3
72.5°	166.8	111.4	72.5	66.6	65.1
75°	137.6	85.2	59.8	54.6	53.9
77.5°	108.5	60.6	47.1	44.1	42.6
80°	81.5	43.4	35.9	32.9	32.9
82.5°	56.8	29.2	24.7	23.2	23.2
85°	32.1	16.4	14.2	14.2	14.2
87.5°	12.0	6.0	6.0	5.2	5.2
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	6.78	7.46	7.91	8.58	10.14	2.77	3.44	3.90	4.56	6.12
	3H	8.42	9.03	9.56	10.16	11.73	3.93	4.53	5.07	5.66	7.23
	4H	9.01	9.58	10.15	10.71	12.29	4.36	4.93	5.51	6.06	7.64
	6H	9.40	9.93	10.56	11.06	12.65	4.66	5.18	5.81	6.32	7.91
	8H	9.51	10.01	10.67	11.16	12.74	4.73	5.24	5.89	6.38	7.97
	12H	9.56	10.03	10.72	11.17	12.78	4.77	5.24	5.93	6.38	7.99
4H	2H	6.78	7.35	7.93	8.48	10.06	3.33	3.90	4.49	5.03	6.61
	3H	8.56	9.04	9.72	10.20	11.79	4.64	5.12	5.81	6.28	7.87
	4H	9.23	9.67	10.39	10.81	12.42	5.17	5.61	6.34	6.76	8.37
	6H	9.71	10.09	10.88	11.26	12.86	5.56	5.94	6.73	7.11	8.71
	8H	9.87	10.22	11.04	11.38	13.00	5.68	6.03	6.85	7.19	8.81
	12H	9.95	10.26	11.13	11.43	13.05	5.73	6.05	6.91	7.22	8.84
8H	4H	9.18	9.53	10.35	10.69	12.31	5.43	5.78	6.59	6.93	8.55
	6H	9.72	10.01	10.90	11.21	12.82	5.91	6.20	7.10	7.40	9.02
	8H	9.92	10.17	11.11	11.35	12.98	6.09	6.34	7.28	7.52	9.16
	12H	10.03	10.25	11.23	11.43	13.09	6.19	6.41	7.39	7.59	9.25
12H	4H	9.13	9.44	10.31	10.61	12.23	5.42	5.74	6.60	6.91	8.53
	6H	9.69	9.94	10.88	11.12	12.75	5.96	6.21	7.15	7.39	9.02
	8H	9.89	10.11	11.08	11.28	12.95	6.14	6.37	7.34	7.54	9.21

END OF REPORT