

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: P905180

Luminaire Tested: DFN2DIP-HX2F0-030D050US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905180
REPORT IS A COMBINATION OF REPORTS P899184 AND P896039
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-030D050US835-RLLFLL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

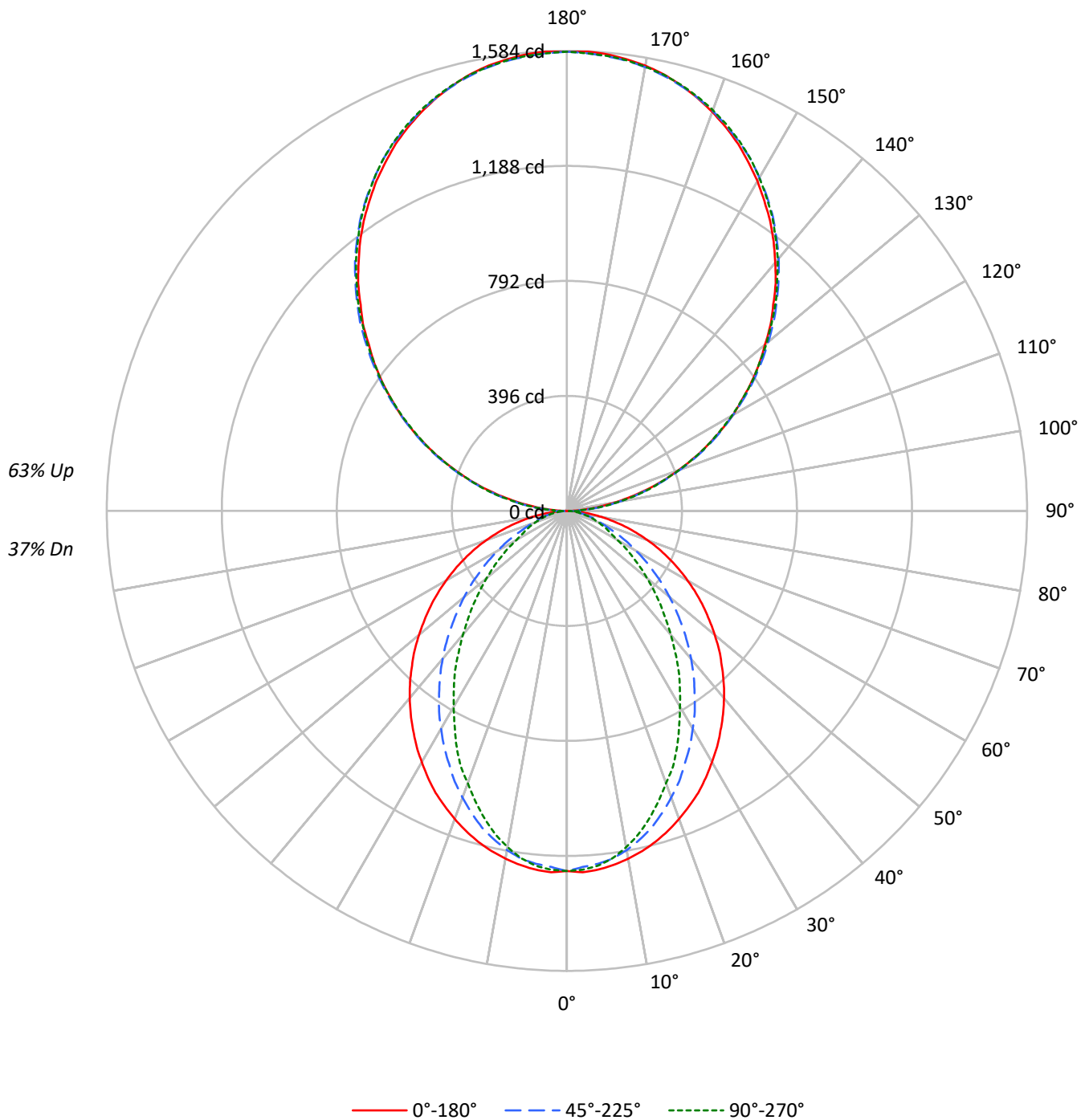
Lumens per Lamp: N/A
Luminaire Lumens: 6975.0 lumens
Efficiency: N/A
Efficacy: 109.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 63.7
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

TEST NUMBER: P905180

CATALOG NUMBER: DFN2DIP-HX2F0-030D050US835-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P905180

CATALOG NUMBER: DFN2DIP-HX2F0-030D050US835-RLLFLL

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	76	76	76	59	59	59	44	44	44
1	95	91	87	84	86	83	80	77	67	65	63	53	51	50	39	38	38
2	87	80	74	69	79	73	68	63	59	56	53	47	44	42	35	34	32
3	79	70	64	58	72	64	58	53	52	48	45	41	39	36	31	29	28
4	73	63	55	49	66	57	51	46	47	42	38	37	34	31	28	26	24
5	67	56	48	42	60	51	44	39	42	37	33	33	30	27	26	23	21
6	62	50	42	37	56	46	39	34	38	33	29	30	27	24	23	21	19
7	57	45	38	32	52	41	35	30	34	29	26	28	24	21	21	19	17
8	53	41	34	29	48	38	31	27	31	26	23	25	22	19	20	17	15
9	49	38	30	25	45	34	28	24	29	24	20	23	20	17	18	16	14
10	46	34	27	23	42	32	25	21	26	22	18	22	18	16	17	14	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2921	2921	2921
5°	2921	2868	2888
10°	2888	2805	2789
15°	2843	2705	2639
20°	2786	2571	2456
25°	2728	2422	2280
30°	2650	2270	2059
35°	2575	2107	1864
40°	2497	1939	1643
45°	2408	1753	1442
50°	2315	1567	1246
55°	2217	1368	1058
60°	2104	1162	866
65°	1974	953	774
70°	1816	758	692
75°	1616	655	619
80°	1331	530	522
85°	870	327	366

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2408 cd/sqm

TEST NUMBER: P905180

CATALOG NUMBER: DFN2DIP-HX2F0-030D050US835-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.2	1.7
10°-20°	319.0	4.6
20°-30°	447.9	6.4
30°-40°	488.2	7.0
40°-50°	448.7	6.4
50°-60°	352.4	5.1
60°-70°	229.4	3.3
70°-80°	118.1	1.7
80°-90°	34.6	0.5
90°-100°	97.8	1.4
100°-110°	310.9	4.5
110°-120°	532.1	7.6
120°-130°	699.7	10.0
130°-140°	785.4	11.3
140°-150°	770.2	11.0
150°-160°	646.1	9.3
160°-170°	428.5	6.1
170°-180°	149.8	2.1
0°-30°	883.1	12.7
0°-40°	1371.3	19.7
0°-60°	2172.4	31.1
0°-90°	2554.5	36.6
90°-120°	940.8	13.5
90°-150°	3196.2	45.8
90°-180°	4421.0	63.4
0°-180°	6975.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1240	1240	1240	1240	1240	
5°	1240	1234	1220	1230	1226	118
15°	1179	1167	1129	1108	1096	332
25°	1070	1034	960	914	898	492
35°	922	865	766	696	671	577
45°	754	679	561	481	454	582
55°	573	486	365	297	276	512
65°	387	296	195	157	154	384
75°	206	128	90	82	81	218
85°	48	25	21	21	21	55
90°	1	17	47	44	45	7
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	

TEST NUMBER: P905180

CATALOG NUMBER: DFN2DIP-HX2F0-030D050US835-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1239.9	1239.9	1239.9	1239.9	1239.9
2.5°	1245.5	1239.9	1227.5	1238.8	1236.6
5°	1239.9	1234.3	1219.7	1229.8	1226.4
7.5°	1229.8	1223.1	1207.4	1211.8	1206.2
10°	1216.3	1208.5	1186.1	1182.6	1176.0
12.5°	1199.5	1189.4	1159.1	1152.4	1140.0
15°	1179.3	1166.9	1128.8	1107.5	1096.3
17.5°	1155.7	1137.8	1090.6	1066.0	1048.0
20°	1128.8	1106.3	1050.2	1022.3	997.5
22.5°	1099.7	1073.8	1008.7	970.6	953.8
25°	1070.5	1034.5	960.5	914.5	897.6
27.5°	1035.7	997.5	915.6	862.9	837.0
30°	998.7	956.0	866.2	809.1	778.7
32.5°	962.7	911.1	819.2	751.8	723.7
35°	922.4	865.1	766.4	695.7	671.0
37.5°	883.1	821.3	717.0	639.5	611.6
40°	841.6	774.3	665.4	585.7	556.6
42.5°	798.9	727.2	613.8	530.7	502.7
45°	754.1	678.8	561.1	481.3	454.4
47.5°	711.4	631.8	510.6	430.8	406.2
50°	664.3	584.6	461.2	383.7	360.2
52.5°	618.2	534.1	414.1	340.0	318.7
55°	573.3	485.8	364.6	297.4	276.1
57.5°	527.4	437.6	321.0	258.1	240.1
60°	480.2	390.5	274.9	217.7	199.8
62.5°	434.3	344.5	235.6	181.8	172.9
65°	387.1	296.2	195.2	157.1	153.7
67.5°	342.3	251.3	157.1	138.0	134.6
70°	295.1	207.6	130.1	118.9	114.4
72.5°	250.2	167.1	108.8	99.9	97.6
75°	206.4	127.9	89.8	81.9	80.8
77.5°	162.7	90.8	70.7	66.2	63.9
80°	122.3	65.1	53.8	49.4	49.4
82.5°	85.2	43.8	37.0	34.8	34.8
85°	48.2	24.6	21.3	21.3	21.3
87.5°	18.0	8.9	8.9	7.9	7.9
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

TEST NUMBER: P905180

CATALOG NUMBER: DFN2DIP-HX2F0-030D050US835-RLLFLL

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

TEST NUMBER: P905180

CATALOG NUMBER: DFN2DIP-HX2F0-030D050US835-RLLFLL

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	9.34	10.07	10.41	11.14	12.59	5.32	6.05	6.39	7.12	8.57
	3H	10.98	11.64	12.06	12.71	14.18	6.49	7.14	7.56	8.22	9.69
	4H	11.57	12.19	12.66	13.27	14.75	6.92	7.54	8.01	8.62	10.09
	6H	11.97	12.54	13.07	13.62	15.11	7.22	7.79	8.32	8.87	10.36
	8H	12.08	12.62	13.18	13.72	15.20	7.30	7.84	8.40	8.94	10.42
	12H	12.13	12.64	13.23	13.73	15.24	7.33	7.85	8.44	8.94	10.44
4H	2H	9.34	9.96	10.44	11.04	12.52	5.89	6.51	6.99	7.59	9.07
	3H	11.13	11.65	12.24	12.75	14.24	7.21	7.73	8.31	8.83	10.32
	4H	11.80	12.27	12.91	13.37	14.88	7.74	8.21	8.85	9.31	10.82
	6H	12.29	12.69	13.40	13.81	15.31	8.14	8.54	9.25	9.66	11.16
	8H	12.45	12.82	13.56	13.93	15.45	8.25	8.63	9.37	9.74	11.26
	12H	12.52	12.86	13.65	13.99	15.51	8.30	8.65	9.44	9.77	11.29
8H	4H	11.76	12.14	12.87	13.25	14.76	8.00	8.38	9.11	9.49	11.01
	6H	12.29	12.60	13.43	13.76	15.27	8.49	8.80	9.63	9.95	11.47
	8H	12.49	12.76	13.63	13.90	15.43	8.67	8.94	9.81	10.07	11.61
	12H	12.61	12.85	13.75	13.98	15.55	8.77	9.01	9.91	10.14	11.71
12H	4H	11.70	12.05	12.84	13.17	14.69	7.99	8.34	9.13	9.46	10.98
	6H	12.27	12.54	13.41	13.67	15.21	8.53	8.81	9.67	9.94	11.47
	8H	12.46	12.70	13.61	13.83	15.41	8.72	8.96	9.87	10.09	11.66

END OF REPORT