

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: P905680

Luminaire Tested: DFN2DIP-PN3F0-030D040US835-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905680
REPORT IS A COMBINATION OF REPORTS P899525 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-030D040US835-FLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

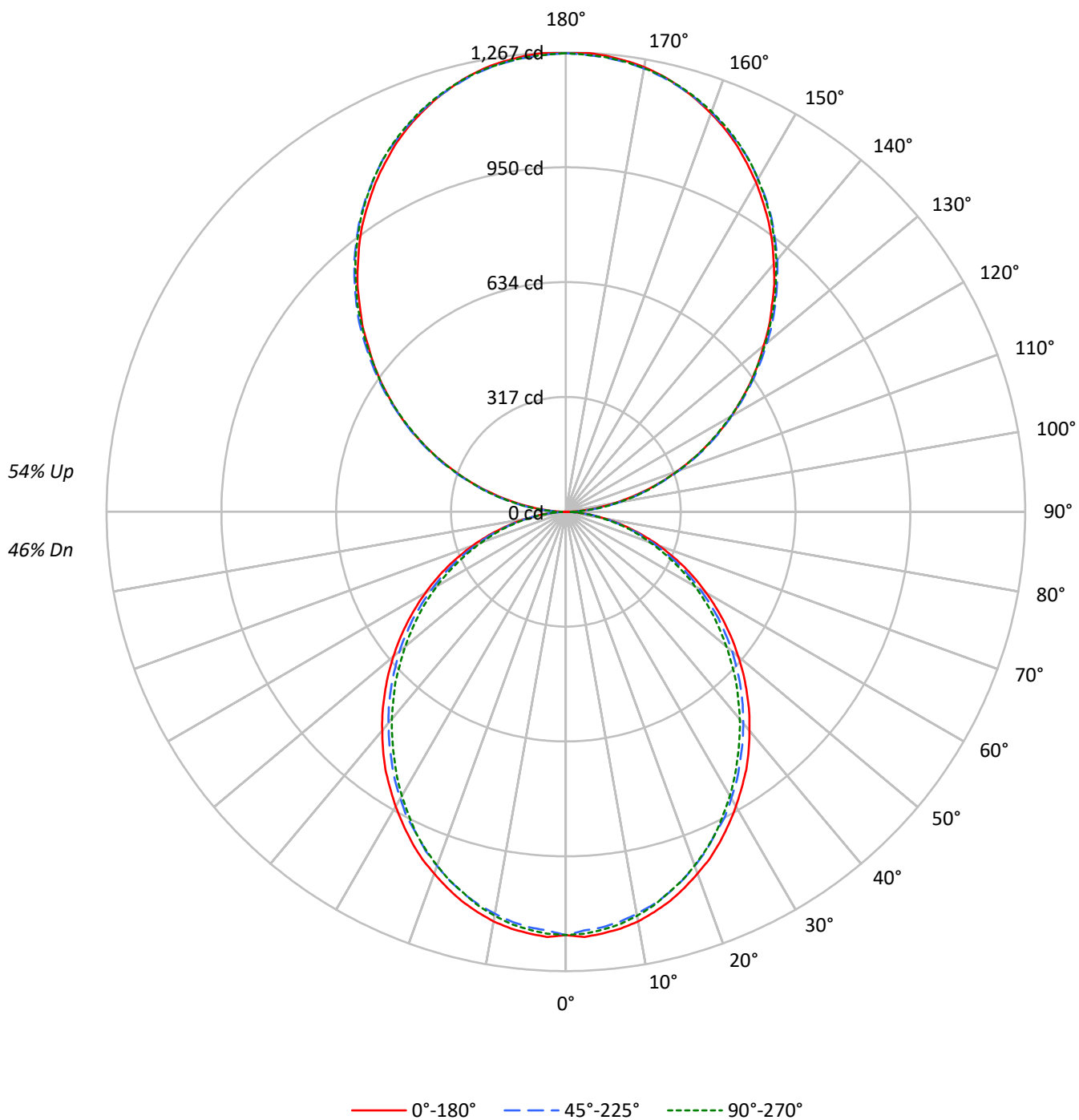
Lumens per Lamp: N/A
Luminaire Lumens: 6510.0 lumens
Efficiency: N/A
Efficacy: 120.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 53.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52
1	97	93	89	85	89	85	82	79	71	69	66	58	56	55	46	45	44
2	88	81	75	70	81	74	69	65	62	58	55	51	48	46	41	39	37
3	80	71	64	58	73	65	59	54	55	50	46	45	42	39	36	34	32
4	74	63	55	49	67	58	51	46	49	43	39	40	36	33	32	29	27
5	67	56	48	42	62	52	45	39	44	38	34	36	32	29	29	26	24
6	62	50	42	36	57	46	39	34	39	34	30	33	28	25	26	23	21
7	57	45	37	32	53	42	35	30	36	30	26	30	25	22	24	21	19
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	17
9	50	37	30	25	45	35	28	24	30	24	21	25	21	18	20	17	15
10	46	34	27	22	42	32	25	21	27	22	19	23	19	16	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1365	1365	1365
5°	1366	1345	1354
10°	1354	1326	1335
15°	1333	1303	1306
20°	1306	1271	1276
25°	1278	1234	1242
30°	1244	1200	1198
35°	1211	1159	1152
40°	1171	1118	1108
45°	1131	1076	1063
50°	1087	1033	1011
55°	1041	982	963
60°	989	923	908
65°	933	861	843
70°	860	786	772
75°	760	695	707
80°	639	579	584
85°	451	383	380

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1252 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.9	1.7
10°-20°	309.1	4.7
20°-30°	454.3	7.0
30°-40°	527.6	8.1
40°-50°	527.0	8.1
50°-60°	459.5	7.1
60°-70°	339.7	5.2
70°-80°	192.2	3.0
80°-90°	54.3	0.8
90°-100°	78.3	1.2
100°-110°	248.7	3.8
110°-120°	425.6	6.5
120°-130°	559.8	8.6
130°-140°	628.3	9.7
140°-150°	616.2	9.5
150°-160°	516.9	7.9
160°-170°	342.8	5.3
170°-180°	119.8	1.8
0°-30°	873.3	13.4
0°-40°	1400.9	21.5
0°-60°	2387.4	36.7
0°-90°	2973.6	45.7
90°-120°	752.7	11.6
90°-150°	2556.9	39.3
90°-180°	3536.0	54.3
0°-180°	6510.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1167	1167	1167	1167	1167	
5°	1167	1163	1150	1160	1157	111
15°	1111	1105	1090	1094	1089	313
25°	1006	997	978	980	978	463
35°	868	856	838	832	826	542
45°	706	698	681	669	664	545
55°	534	528	514	501	495	478
65°	360	354	342	332	327	356
75°	188	186	181	174	176	201
85°	46	45	44	40	39	51
90°	1	14	37	35	36	6
95°	56	66	68	68	66	62
105°	230	233	235	237	237	242
115°	427	433	431	430	427	422
125°	621	631	628	624	623	555
135°	804	815	818	816	814	621
145°	976	983	989	990	986	610
155°	1116	1119	1122	1127	1124	513
165°	1214	1212	1212	1220	1215	342
175°	1263	1260	1257	1265	1259	120
180°	1265	1265	1265	1265	1265	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1167.3	1167.3	1167.3	1167.3	1167.3
2.5°	1174.1	1168.5	1156.1	1167.3	1165.2
5°	1167.3	1162.9	1150.5	1159.5	1157.3
7.5°	1159.5	1152.8	1140.4	1149.5	1147.2
10°	1147.2	1139.3	1125.9	1134.8	1131.5
12.5°	1130.3	1123.6	1110.2	1115.7	1113.5
15°	1111.2	1104.6	1089.9	1094.4	1088.8
17.5°	1087.6	1081.0	1066.3	1071.9	1066.3
20°	1061.8	1055.1	1039.4	1042.7	1038.3
22.5°	1036.1	1026.0	1011.3	1011.3	1009.0
25°	1005.7	996.8	977.7	979.9	977.7
27.5°	972.0	964.1	949.6	946.3	940.7
30°	938.4	929.4	912.6	909.2	904.7
32.5°	902.5	895.8	877.8	871.0	866.5
35°	867.7	856.5	838.5	831.7	826.1
37.5°	828.4	818.3	800.3	792.4	786.8
40°	788.0	779.0	761.0	751.0	746.5
42.5°	748.7	739.7	721.8	710.5	703.8
45°	706.1	698.2	681.3	669.0	664.5
47.5°	664.5	656.7	638.7	626.3	619.6
50°	620.7	615.1	599.4	583.7	578.1
52.5°	578.1	570.2	555.7	543.3	535.4
55°	534.4	527.6	514.1	500.7	495.1
57.5°	490.5	484.9	470.3	456.8	452.3
60°	446.7	442.3	426.6	414.2	410.9
62.5°	404.1	396.2	385.0	373.8	369.3
65°	360.4	353.6	342.4	332.3	326.7
67.5°	315.5	309.8	299.7	291.9	287.4
70°	273.9	269.4	259.3	251.4	247.0
72.5°	231.3	226.7	221.1	213.3	210.0
75°	188.5	186.4	180.7	174.0	176.3
77.5°	150.4	145.9	143.6	140.3	137.0
80°	112.3	111.1	108.8	105.5	103.3
82.5°	76.3	76.3	75.3	70.7	70.7
85°	46.0	44.9	43.8	40.4	39.3
87.5°	20.2	18.0	15.7	12.4	11.2
90°	1.1	13.7	37.4	35.1	36.2
92.5°	23.6	32.0	33.2	34.3	34.3
95°	55.7	66.4	68.3	68.3	66.4
97.5°	92.7	102.6	106.8	106.8	106.8
100°	135.4	144.2	147.2	147.2	146.1
102.5°	180.4	186.9	191.1	192.2	191.1
105°	229.6	232.6	234.9	236.8	236.8
107.5°	278.4	283.0	283.0	283.7	278.4
110°	325.7	331.8	331.8	331.8	328.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	376.8	383.3	382.1	379.1	376.8
115°	427.1	433.3	431.3	430.2	427.1
117.5°	477.1	485.5	480.2	477.1	474.1
120°	527.5	535.8	527.5	527.5	524.0
122.5°	573.2	583.9	578.6	575.5	573.2
125°	621.3	630.8	627.8	624.3	623.2
127.5°	668.2	680.0	675.8	671.2	668.2
130°	712.0	725.8	723.9	721.6	717.4
132.5°	761.2	771.9	772.7	767.3	764.3
135°	803.6	815.4	817.7	816.5	813.5
137.5°	850.9	860.4	862.3	861.5	857.0
140°	892.4	902.0	907.3	907.3	903.1
142.5°	935.2	944.7	947.7	948.9	944.7
145°	975.6	983.2	989.3	990.5	986.3
147.5°	1011.8	1021.3	1025.9	1027.8	1023.6
150°	1049.2	1055.7	1059.9	1063.3	1059.9
152.5°	1082.4	1088.8	1094.2	1098.4	1094.2
155°	1115.5	1118.6	1122.0	1127.4	1123.9
157.5°	1144.2	1146.4	1148.3	1156.0	1150.6
160°	1169.7	1172.0	1173.1	1179.6	1175.0
162.5°	1193.3	1193.3	1194.5	1201.7	1196.4
165°	1213.6	1212.4	1212.4	1220.0	1214.7
167.5°	1231.9	1228.4	1228.4	1236.1	1230.7
170°	1245.6	1242.5	1241.4	1249.0	1242.5
172.5°	1255.1	1252.1	1250.9	1258.6	1252.1
175°	1262.8	1259.7	1257.4	1265.0	1258.6
177.5°	1267.0	1263.9	1261.6	1268.1	1261.6
180°	1265.0	1265.0	1265.0	1265.0	1265.0

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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	7.90	8.72	8.89	9.73	11.06	7.46	8.28	8.45	9.29	10.62
	3H	9.55	10.29	10.55	11.30	12.65	9.07	9.81	10.07	10.82	12.17
	4H	10.13	10.83	11.15	11.85	13.21	9.65	10.35	10.66	11.36	12.72
	6H	10.52	11.17	11.55	12.19	13.56	10.04	10.68	11.06	11.70	13.07
	8H	10.63	11.24	11.66	12.28	13.65	10.14	10.75	11.17	11.79	13.16
	12H	10.67	11.25	11.71	12.29	13.68	10.17	10.76	11.21	11.79	13.18
4H	2H	8.35	9.05	9.37	10.07	11.43	8.00	8.70	9.02	9.72	11.08
	3H	10.21	10.79	11.24	11.84	13.21	9.80	10.39	10.84	11.43	12.81
	4H	10.91	11.45	11.95	12.49	13.88	10.50	11.03	11.54	12.07	13.47
	6H	11.42	11.88	12.47	12.94	14.33	11.00	11.46	12.05	12.52	13.91
	8H	11.57	12.00	12.62	13.05	14.46	11.14	11.57	12.19	12.62	14.03
	12H	11.64	12.02	12.70	13.09	14.50	11.20	11.59	12.27	12.65	14.07
8H	4H	11.10	11.53	12.15	12.59	13.99	10.73	11.16	11.78	12.22	13.62
	6H	11.73	12.08	12.80	13.18	14.58	11.35	11.71	12.42	12.80	14.21
	8H	11.94	12.25	13.02	13.33	14.76	11.56	11.87	12.64	12.95	14.37
	12H	12.07	12.34	13.15	13.42	14.88	11.67	11.94	12.75	13.02	14.48
12H	4H	11.09	11.48	12.15	12.54	13.96	10.72	11.11	11.79	12.18	13.59
	6H	11.75	12.07	12.83	13.15	14.57	11.39	11.70	12.47	12.78	14.21
	8H	11.99	12.26	13.07	13.34	14.80	11.62	11.89	12.70	12.97	14.43