

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: P644240

Luminaire Tested: CRQ4DIP-SR4F0-100D75U935-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644240
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2203-563-26, G2-2206-689-14)
Test Lab: INNOVATION CENTER
Issue Date: 2/20/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: CRQ4DIP-SR4F0-100D75U935-FLLOOB-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 750 LUMENS PER FOOT
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

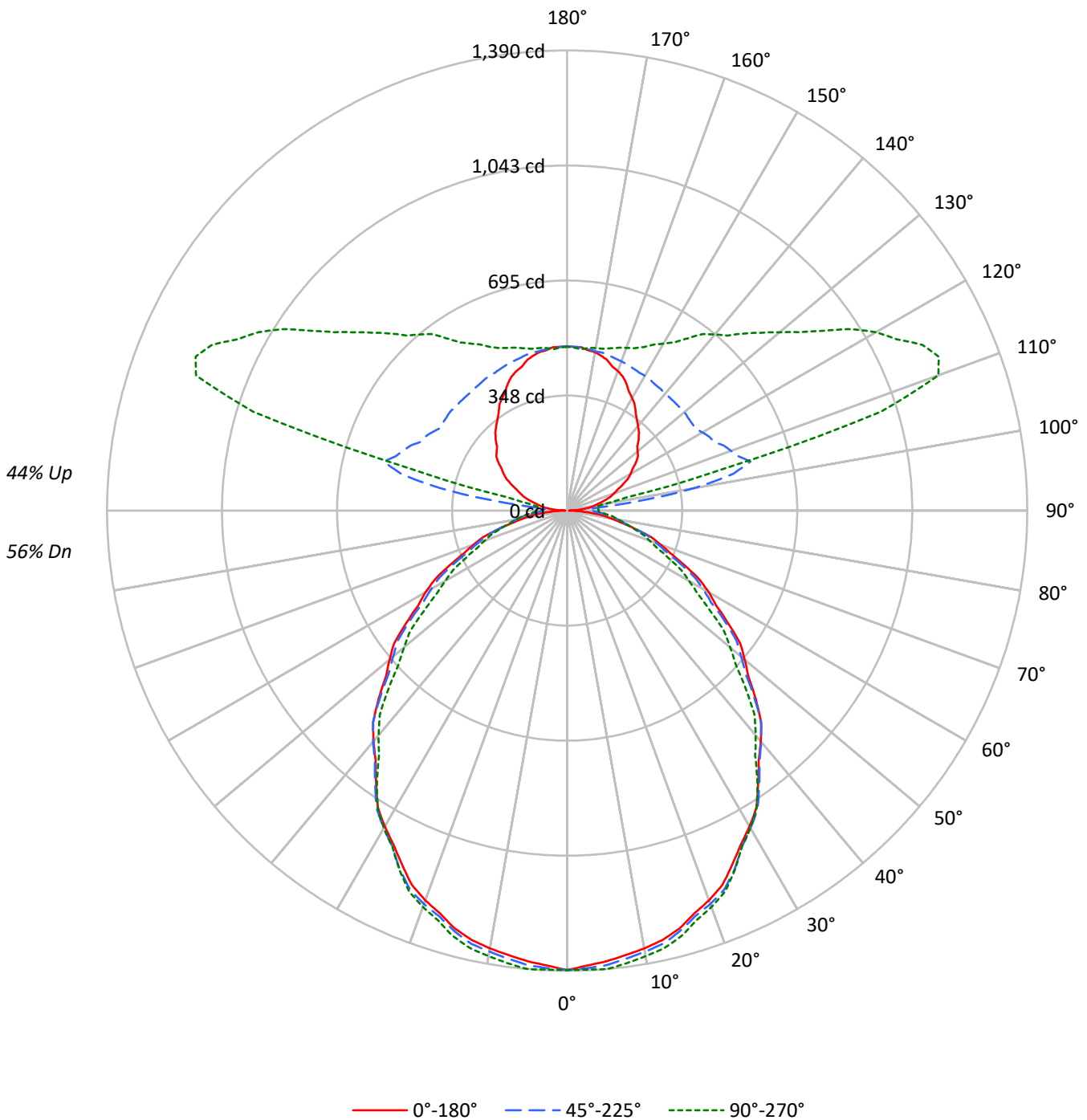
Lumens per Lamp: N/A
Luminaire Lumens: 6239.0 lumens
Efficiency: N/A
Efficacy: 123.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: General Diffuse

Input Watts (W): 50.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
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										
RC	80									70									50									30									10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0														
RCR																																						
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56																				
1	99	95	90	87	92	88	85	81	76	73	71	65	63	61	54	53	52	47																				
2	90	83	76	71	84	77	72	67	67	62	59	57	54	51	48	46	44	39																				
3	82	73	65	59	76	68	61	56	59	54	50	50	47	43	43	40	37	34																				
4	75	64	56	50	70	60	53	48	52	47	42	45	41	37	38	35	32	29																				
5	69	58	49	43	64	54	47	41	47	41	37	40	36	32	34	31	28	25																				
6	64	52	44	38	59	48	41	36	42	36	32	37	32	28	31	28	25	22																				
7	59	47	39	33	55	44	37	32	38	33	28	33	29	25	29	25	22	20																				
8	55	43	35	29	51	40	33	28	35	29	25	31	26	23	26	23	20	18																				
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	24	21	18	16																				
10	48	36	28	24	45	34	27	23	30	24	20	26	22	18	23	19	16	15																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22410	22410	22410
5°	21987	19787	19174
10°	21698	17605	16563
15°	21380	15766	14488
20°	20890	14143	12671
25°	20239	12629	11042
30°	19599	11160	9584
35°	18730	9815	8226
40°	17921	8592	6973
45°	16984	7385	5820
50°	15992	6255	4774
55°	14942	5263	3850
60°	13940	4313	3077
65°	12709	3440	2436
70°	11524	2695	1924
75°	10074	2071	1517
80°	8417	1540	1181
85°	6139	1120	898

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 16984 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.0	2.1
10°-20°	371.8	6.0
20°-30°	548.8	8.8
30°-40°	631.0	10.1
40°-50°	612.1	9.8
50°-60°	512.4	8.2
60°-70°	369.2	5.9
70°-80°	225.6	3.6
80°-90°	110.7	1.8
90°-100°	104.2	1.7
100°-110°	449.5	7.2
110°-120°	594.4	9.5
120°-130°	481.6	7.7
130°-140°	385.8	6.2
140°-150°	303.9	4.9
150°-160°	222.2	3.6
160°-170°	138.0	2.2
170°-180°	47.1	0.8
0°-30°	1051.6	16.9
0°-40°	1682.5	27.0
0°-60°	2807.0	45.0
0°-90°	3512.4	56.3
90°-120°	1148.1	18.4
90°-150°	2319.3	37.2
90°-180°	2727.0	43.7
0°-180°	6239.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1388	1388	1388	1388	1388	
5°	1366	1391	1378	1380	1390	130
15°	1308	1327	1316	1322	1331	368
25°	1180	1199	1196	1190	1198	544
35°	1006	1021	1012	1002	1002	630
45°	806	813	800	776	765	621
55°	594	602	580	545	527	533
65°	392	394	374	347	337	390
75°	212	212	216	210	206	226
85°	65	78	108	116	116	68
90°	6	42	77	92	94	8
95°	44	64	66	83	91	44
105°	116	156	573	738	498	123
115°	185	214	490	1014	1184	183
125°	254	284	460	800	947	225
135°	305	339	461	659	757	235
145°	361	392	464	574	635	227
155°	424	439	473	521	545	194
165°	470	476	486	498	508	132
175°	495	498	495	492	489	47
180°	495	495	495	495	495	



TEST NUMBER: P644240

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1388.0	1388.0	1388.0	1388.0	1388.0
2.5°	1375.5	1395.4	1383.3	1386.5	1388.0
5°	1366.5	1391.4	1378.2	1380.4	1390.0
7.5°	1353.9	1376.9	1365.3	1367.9	1379.0
10°	1342.9	1365.9	1352.7	1356.9	1366.5
12.5°	1328.8	1350.3	1340.2	1344.3	1353.9
15°	1307.6	1326.8	1315.5	1321.6	1331.2
17.5°	1276.3	1297.0	1284.9	1288.3	1297.8
20°	1252.7	1271.9	1264.5	1264.7	1274.3
22.5°	1224.5	1245.2	1239.4	1235.0	1246.1
25°	1180.2	1199.4	1195.9	1190.2	1197.9
27.5°	1136.3	1150.5	1143.7	1138.0	1143.7
30°	1101.8	1119.0	1107.7	1101.9	1107.7
32.5°	1064.1	1081.4	1070.0	1062.6	1065.3
35°	1005.7	1021.1	1011.6	1001.8	1001.8
37.5°	950.4	960.4	954.0	937.4	933.2
40°	909.7	921.2	911.6	891.9	886.1
42.5°	867.3	878.8	867.7	846.3	837.5
45°	805.8	813.4	799.9	776.1	764.6
47.5°	742.2	750.3	731.6	705.5	691.7
50°	699.9	709.5	686.2	658.4	643.0
52.5°	659.1	665.6	643.8	611.4	597.6
55°	594.0	601.7	580.3	544.6	527.4
57.5°	533.2	540.5	515.2	481.2	467.8
60°	494.0	499.8	474.4	438.8	425.4
62.5°	450.1	455.9	432.1	401.2	387.8
65°	392.1	394.0	374.5	346.8	337.2
67.5°	337.6	337.6	321.1	300.6	292.9
70°	300.0	300.0	288.2	272.3	264.7
72.5°	265.4	263.9	256.8	245.7	239.6
75°	211.7	211.7	215.7	209.7	205.8
77.5°	164.7	161.6	178.4	177.6	175.7
80°	133.3	133.3	154.9	158.8	156.8
82.5°	105.1	108.1	136.1	141.5	139.6
85°	64.7	78.1	107.8	115.7	115.7
87.5°	29.4	53.4	85.9	96.8	97.1
90°	5.9	41.5	76.8	91.7	93.6
92.5°	19.6	39.9	71.7	89.2	95.1
95°	44.5	63.9	66.1	83.1	91.1
97.5°	67.7	100.3	212.9	95.2	90.2
100°	82.7	121.0	391.0	141.6	108.9
102.5°	96.1	136.8	514.2	312.5	185.7
105°	116.1	156.4	573.4	737.7	498.0
107.5°	136.2	164.1	543.6	1058.9	994.4
110°	149.6	176.5	527.0	1108.9	1193.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	164.5	191.5	512.1	1074.7	1214.8
115°	185.0	213.8	489.7	1013.5	1184.0
117.5°	205.7	236.2	483.7	945.9	1121.3
120°	221.5	251.2	472.1	894.7	1077.4
122.5°	234.0	264.6	459.7	852.0	1020.1
125°	253.8	283.5	459.7	800.5	946.6
127.5°	269.5	302.1	460.3	740.6	884.9
130°	277.9	314.5	462.8	700.6	837.6
132.5°	287.3	323.8	461.2	682.6	795.3
135°	305.2	338.6	460.8	659.2	756.7
137.5°	320.7	356.6	460.8	633.4	716.8
140°	333.2	366.7	460.8	618.3	694.4
142.5°	345.6	376.7	463.3	600.7	672.0
145°	361.2	391.6	464.0	574.3	635.2
147.5°	379.9	406.7	467.7	555.3	602.2
150°	392.3	416.7	470.2	542.7	582.3
152.5°	404.8	426.7	470.2	532.6	564.8
155°	423.5	438.7	473.3	520.6	544.9
157.5°	438.4	453.0	477.0	512.9	530.6
160°	448.4	460.6	479.5	507.9	523.1
162.5°	455.9	468.0	482.0	505.3	515.6
165°	470.2	476.3	485.8	498.4	507.5
167.5°	478.3	483.8	488.9	495.2	500.7
170°	485.8	488.8	488.9	495.2	498.2
172.5°	488.2	493.7	491.4	492.7	495.7
175°	495.1	498.1	495.1	491.9	488.9
177.5°	495.1	497.5	495.1	495.0	492.6
180°	495.1	495.1	495.1	495.1	495.1

(END OF REPORT)